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GLEANINGS

IN BEE CULTURE

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THE A.I.
MEDINA



ROOT CO.
OHIO

U.S.A.

Western Edition

Root's Bee-keepers' Supplies at Convenient Distributing Points.

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Oregon--Portland Seed Co., Portland, Ore.

Texas--D. M. Edwards, Uvalde, Tex.

The A. I. Root Company, : Medina, Ohio.

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W. S. M. ASKS whether the bees of two colonies will work in the same super, the two colonies being in a double hive with only a screen division between them, the super to cover only half of each hive. Sure. But perhaps it might be better to increase the size of your super.

MR. EDITOR, when I asked, page 1005, whether you "really make a practice of shaking all the bees off the combs" in a shallow brood-chamber or super, I was not quibbling on the word "all," as you seem to think, but merely trying to learn if you make a practice of *shaking* out bees without taking out combs. The second picture, page 1022, seems to answer in the affirmative.

A NEW KINK is that way of getting big cakes of wax without cracks—pouring from one tub to another, p. 1013. With smaller cakes it may be done this way: Have a big lot of water under the wax, and cover up the whole so warm that it will be a long time cooling off. Or, put the melted wax in the oven of a cook-stove before the fire is out at night, and close the oven door, leaving it all night to cool.

SOME OF THE variations of the shaken-swarm plans are bringing us around to the plan given some years ago by G. W. Demaree—a plan well worth trying by producers of extracted honey. Raise the brood to a second story, leaving in the lower story the queen with frames of foundation, an excluder between the stories. Result, no swarming. A few, however, reported swarming. It's easier than shaking swarms where it works.

F. C. HOCHSTEIN'S article, page 1014, reminds me of a plan for getting bees off combs in practice here. Take hold of one end of

the top-bar, and strike the other end of the top-bar on the ground in front of the hive. But don't strike the end of the bottom-bar on the ground unless you want the comb smashed. [It strikes me that this would be a severe strain on the frame. A good hard blow would have a tendency to make the frame a little out of square, would it not?—ED.]

IF YOU HAVE used a string in transferring combs, don't lift out a brood-frame, cut the string, and then unwind, as advised on page 1030, but without taking out the frame make a single cut the whole length of the top-bar with a pocket-knife, and the thing is done. But I suspect rubber bands are very much better. What size, Mr. Editor? [The rubber bands I had in mind were the ordinary small ones used in the office, rubber links about $1\frac{1}{2}$ inches across the long way. I never tried them, but can see no reason why they would not be just the thing.—ED.]

GENERALLY, if a man should say to me that, to prevent the absconding of a newly hived swarm, there should be no large opening above, I'd be likely to think, "My dear fellow, you're standing on your head." But when one in whose word I have so much confidence as I have in that of S. E. Miller says it, p. 1015, I'm ready to move a reconsideration of the question. Can it be possible that I've always been wrong in advising to move back the cover for the first day or two after hiving? I may say, Bro. Miller, that, although my bees do lots of gluing, they don't generally glue up a crack of $\frac{1}{4}$ inch on top. That alone, however, doesn't prove me right.

AN OBJECTION to piling hives in cellar in the way illustrated on p. 1014 may be worth mentioning. Bees in cellar have spells of stirring up and roaring, and the stirring-up of one colony is communicated to others in that sort of piling, so the bees will have spells of stirring up oftener than if detached. [You are correct; but if room is limited, what are you going to do? To put the hives on shelving, each hive where it can be moved without disturbing the others, would be expensive, and wasteful of room. Would not the cost of the shelving pay for an occa-

sional colony that might be lost because it could not be removed from the immediate vicinity of another colony that was "creating a disturbance"?—ED.]

"BEES WILL YIELD as much money as any outdoor pursuit, and a great deal more than the poultry business on the average," page 1029. I don't arise to contradict that—merely to say I'd like to see figures for it. [I have not the figures; but I do have a definite knowledge of several young men who have gone into the poultry business quite extensively, and sunk every cent they had. I can recall but very few, outside of the farmer, whose chickens can get feed at little or no cost, and the resident in town, who keeps four or five hens, or perhaps a dozen, to convert the refuse from the house into eggs, who have ever been able to make money in the hen business.—ED.]

YELLOW-JACKETS have their abode in a box that's under one of C. M.'s hives, the hive and super being very heavy with honey. He wants to know what to do. One way is to get some one to help lift off the hive, you and he being well veiled and gloved, smoking the yellow-jackets heavily, and then destroying the nest, killing as many of the beasts as possible. Another way would be to go in the evening and give them a good dose of bisulphide of carbon. Possibly you could squirt in enough gasoline to do the business. [The latter plan, in my opinion, is altogether better. My one experience with hornets leads me to believe that they must not be tackled in the open. Even at night I think I would squirt in the bisulphide as soon as possible and get away.—ED.]

G. M. DOOLITTLE, p. 1025, says that, with the narrow stripe of yellow on the fourth segment of the abdomen, "came the contention that the Italian was *not* a pure race of bees. . . . for, if bees showing three bands are pure, what are those showing yellow on four bands?" If I understand the trend of that argument, it is that three bands can not be so pure as something with more yellow. That argument will hardly hold. If three bands be the mark of the pure type, then any change either toward less or more yellow will be getting away from the pure type. If the argument be that Italians are not pure because they have varied, then it will be hard to find any thing pure under the sun, for sports are to be found in most of the things that are called pure. [Dr. Miller is correct. All pure races sport more or less; but these sports always tend to revert to the original type; and this tendency, to one set of markings or characteristics, is the best evidence of the purity of the stock. The five-banders, if left to themselves, will inevitably work back to three bands.—ED.]

NOT SO CERTAIN that the worms mentioned by L. L. Brockwell, p. 1028, are only the old familiar moth-worms. One year, and I rather think never but that one year, I had some cases much as he describes. Here and there would be a group of three or four

young bees in their cells, uncapped and wriggling around as if trying hard to get out, but unable to do so because held fast at the bottom. On digging out the bees I found a small worm at the bottom—never a large worm, and never a gallery web. Either it was something different from the common wax-worm, or the common worm performed in those few cases in a way different from any thing I ever saw before or since. I am strongly of the opinion that it was not the common wax-worm. [You are doubtless correct; and these little worms that you speak of may be the cause of the trouble mentioned by a correspondent elsewhere in these columns.—ED.]

EARLY-ORDER discounts. The *American Bee Journal* figures out in a way that can't be disputed that the man who gets a discount of 10 per cent on supplies bought before Oct. 1, which supplies he would otherwise buy at full prices the first of next June, is getting interest on the money advanced at the rate of 16 $\frac{2}{3}$ per cent per annum. Let's figure what it will be to order in October and get 9 per cent discount rather than to wait till June 1. Nov. 1 to June 1, 7 months. Nine per cent off \$100 leaves \$91. That is, \$91 gains \$9 in 7 months; and that's at the rate of 16 $\frac{9}{10}$ per cent per annum. Good interest. [A good many people have not yet learned that one way to earn money is to be fore-handed. In this deal, both parties are the gainer. The manufacturer is willing to work for less profit in the dull season, in order that he may keep his men going. The bee-keeper not only saves money, but he gets his stuff at a time of the year when he has leisure, can put it together, and have it all ready for the spring rush. Delays in getting goods in the height of the honey season are very expensive and exasperating, to say the least.—ED.]

"WAS IT NOT our duty to work and pray a little harder for these men?" is a question A. I. Root asks, p. 1035. I suppose "harder for these men than for children" is meant. Evidently you base your judgment on your belief that the boy of ten is more likely to backslide than the man of forty, Bro. Root. I think a careful study will change your belief. I think the testimony of Spurgeon and others is to the effect that there is less falling away among children than among adults. Suppose, however, that the boy is twice as likely to fail as the man. If he is twice as easily won, then the account balances. I confess, however, that there's a good deal in your argument that getting the strong men will help get the children. But these things are hardly settled by the ordinary rules of arithmetic. We ought to work with all our might for the child, and we can hardly work harder for the man. And surely we ought to do our utmost for the man, seeing his chance is constantly becoming less; and I'm not going to quarrel with you about which you should work harder for so long as you're using all your powers to work for either.



THE GREAT SOUTHWEST, KNOWN AS THE
BEST BEE-KEEPING, STOCK-RAISING,
FRUIT AND TRUCK GROWING, AND
GENERAL FARMING SECTION
OF TEXAS.

Farming began in Southwest Texas with corn and other forage crops for home use. An abundance of corn for the use of the country could be raised with little effort. It averages about twenty bushels to the acre for a term of years, yielding larger crops where the land is better adapted to its production. Mexican June corn is much planted, and often yields two crops in a season. Sorghum, a kind of smaller sugar-cane, from which sorghum molasses or syrup is made, is, however, the great standby of the stock man and farmer as a forage crop. Mainly it is sown broadcast, mowed and stacked for feeding, or it is baled as ordinary hay. A few of the most progressive and prosperous stock-farmers cultivate it in drills or rows, and then mow it and stack it by horse-power stacking-machines into immense ricks or silos, from which it is fed to cattle as ensilage. The sorghum hay and ensilage fed with crushed corn, cotton-seed meal and hulls, and other feeds compounded into a well-balanced ration, have been mainly instrumental in giving this country its prominence as a producer of fine beef and fine cattle generally.

Other forage crops raised here successfully are millet, Hungarian grass, buffalo grass, Bermuda grass, cassava, Spanish peanuts, cow peas, alfalfa, clover, milo maize, Kaffir corn, pencillaria, rape, artichoke, stock beets, etc. Stock beets promise to become one of our leading feed crops for stock of all kinds, poultry, etc.

Cotton, for many years past, has been the main money crop; but King Cotton is gradually losing his dominion where diversification is getting in its work, and the farmer is learning the benefit from the new regime. The cotton-planter now plants more forage crops which he can feed to cattle, horses, mules, hogs, sheep, goats, and poultry, and sells these with an increased profit. He raises more truck, vegetables, fruit, and miscellaneous other paying crops. He keeps more beds. Broomcorn is raised to some extent, mostly by Northern farmers accustomed to growing it in the North. Here two crops are marketed, but only one in the North. The yield is larger, while the price of land and cost of production are cheaper, and prices better, owing to the large demand by local broom-factories. These brooms are sold in car lots in Houston, San Antonio, Brownsville, and other Texas cities, and are

found in nearly all stores in this section of the State. Broomcorn production and the manufacturing of brooms bids fair to become one of our leading industries. There is an opening for development in many lines.

FRUIT AND TRUCK GROWING.

Nowhere does the soil yield better returns than it does in this country. In truck-growing it is excelled by no other portion of the United States. Vegetables grow here very easily; and, owing to the early seasons, for which this section is noted, they can be placed on the market from *one to six weeks earlier* than from any other section, and thus command very handsome prices. Truck-farmers have been making big money for several years, and the industry is rapidly growing. Land planted in truck, and well tilled, yields from \$100 to \$500 an acre, according to the kind of truck grown. The writer has seen "onion-patches" that yielded returns of over \$750 per acre. These "patches" consisted of several acres at that. The soil is practically inexhaustible, producing as well after twenty-five years of continuous cultivation and fertilizing as it does the first few years. The country now promises to become one of the leading agricultural sections, truck-farming being one of the leading industries.

Among the fruits and vegetables grown here successfully are strawberries, dewberries, blackberries, plums, peaches, apricots, figs, pears, oranges, lemons, bananas, pomegranates, grapes in many varieties, olives, Japan persimmons, and mulberries; cauliflower, cabbage, turnips, mustard, celery, wax-beans, peas, spinach, egg-plant, peanuts, parsley, salsify, lettuce, beets, tomatoes, cucumbers, butter-beans, Irish potatoes, watermelons, canteloups, squashes, pumpkins, kershaws, sweet potatoes, English peas, onions, garlic, leeks, shallots, roasting ears, varieties of peppers, and numerous other things.

IRRIGATION.

It is wonderful how the soil, which seems almost too poor to produce any thing but the scrubby erophytic growth generally found upon it in many places is transformed into the richest producing soil that the writer has seen. All that is necessary is to apply water to this soil and the results are astonishing. Irrigation is coming in Southwest Texas, and in the western part especially; and throughout the "artesian belt" many artesian wells are furnishing water for irrigating purposes. It is claimed by many well-posted people that there is water enough under any given tract of land in the coast country to irrigate it by means of a sufficient number of wells. Where artesian water can not be obtained, pumps operated by windmills or gasoline-engines, and steam-engines using fuel oil or wood, are used. The large rivers will irrigate large areas; but a greater area will be irrigated from wells, because it is cheaper and quicker, and has many advantages. The

canal proposition is a good one for the large capitalist or corporation. Any practical farmer can buy a small tract of land, dig his own well, and raise water by windmill, steam or horse power, according to his ability. Irrigated crops mature quickly, and come in quick rotation, each crop or vegetable requiring irrigation equivalent to only a few good rains.

It is to be expected that, with more irrigation, and alfalfa, new locations will be opened for bee-keepers.

In another issue of GLEANINGS I will show the readers a larger map of this country, Southwest Texas. This map will show the counties, towns, railroads, and other things of interest to bee-keepers, especially those who are interested in this section of country. I shall try, also, to tell the readers something more about the different districts, and where the main bee-keeping centers are located.



About two years ago I published a list of foreign bee-journals. As that list has changed so much since then, I have in view a new one, to meet the numerous requests of our readers who came from Europe. More bee journals are published now than ever.

So far as honey is concerned, Spain is probably the most unfortunate country in the world just now, and that statement might include nearly every thing eatable. A frightful drouth has been devastating that once favored land. In Andalusia, the southern part of the peninsula, some 85,000 people have starved to death, and a million more are starving, while famine stalks over a good deal of the rest of the country.

Russia seems to have the best future before it for honey of any country in Europe or Asia. In the southern half of Siberia, that vast land of camels and icebergs, oranges and frozen oceans, there are plains of flowers as unlimited, apparently, as the sea, and quite good honey-yielders, too, that are never trodden by human foot except in the roads through those vast fields. With the freedom for development we have here in America, Russia could put enough honey on the market to surprise the whole of us.

A recent number of *Centralblatt*, a German bee journal of wide circulation, informs its readers that foul brood has, to the horror of all bee-keepers, broken out in several

apiaries in Hanover. A writer in a later issue, however, seems to think the situation is not so bad as represented; but it is bad enough to warrant the most stringent precaution against its spread. We shall soon see whether foul brood in Europe is any less fatal in its results than in this country.

The great number of conventions held by bee-keepers in Europe within the last year, especially among those speaking German and French, is surprising, and ought to set the pace for Americans. An account of the proceedings of these conventions occupies much of the space in foreign bee journals. Their attendance is probably ten times what it is in our own conventions; but that is largely due to the fact that so many of the members live in a comparatively small space, and hence can attend more easily. Besides, if a convention is to be held in Brussels, for instance, it is at a time when a large fair is held there, thus offering additional inducements to leave home.

I have watched the foreign bee-journals quite closely this summer and fall to note whether the crop has been good or indifferent in Europe. I am sorry to say that the reports have been of a decidedly "blasted hopes" variety, gleaned my information from at least a dozen different sources. While reading these reports I noted that some heath honey is so thick that it can not be extracted. I'd like to get about ten pounds of real Scotch heather honey. In speaking of good crops and large apiaries, however, the Europeans seem to know nothing of the jumbo affairs we have in this country, like those of E. W. Alexander, W. L. Coggshall, M. H. Mendlesson, and a score more I could mention, whose crops are measured by the ton. In speaking of these large crops the foreign bee journals often describe them in terms of the greatest amazement.

The Fourth Annual Report of the Illinois State Bee-keepers' Association has been published, compiled by Jas. A. Stone, Sec. I think it is the most complete report of the kind I have ever seen, containing as it does 192 pages. It almost seems useless to attend conventions when such complete knowledge of their proceedings can be obtained and read at one's leisure. But how much will there be to read if everybody stays at home? Many things aside from what is said about bees make it a paying investment for the bee-keeper to attend these meetings. The book in question is a verbatim report of all that was said and done at this convention. It was printed at the office of the *American Bee Journal*, and I rather suspect that Mr. York's careful sub-editing of the manuscript has had much to do with the excellent literary style of it, causing it to present a decided contrast with similar reports I have seen in some cases. Whether one lives in Illinois or not, it will, if he is a bee-

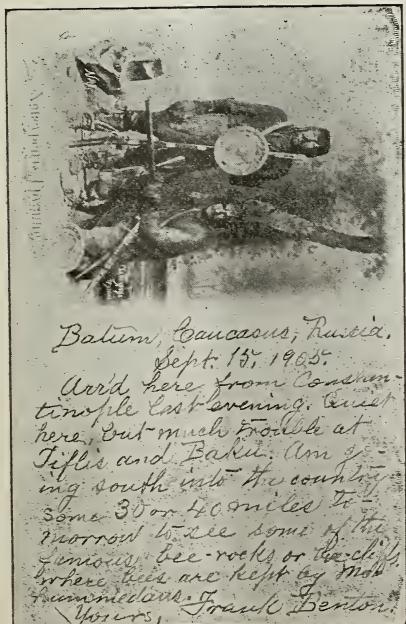
keeper, pay him to get and read this book. Address G. W. York, 334 Dearborn St., Chicago, for particulars.



OUR readers are referred to a very valuable article by W. K. Morrison, in this issue, on the subject of a big bee show at either New York or Chicago.

MR. BENTON AFTER THE CAUCASIAN BEES IN THEIR NATIVE HEATH.

SOME little time ago I received a letter from Dr. E. F. Phillips, acting in charge of the Bureau of Apiculture, at Washington, expressing his fears that, owing to the troubles in the Caucasus regions, in Russia, where these celebrated bees are found, it would be impossible for Mr. Benton to get them in person this year. But the latter has been sending us from time to time souvenir postals from points along the line of his travels. We have already reproduced one, and now take pleasure in presenting a half-tone reproduction of another, right di-



rect from the Caucasus. It is self-explanatory.

We shall hope that Mr. Benton will be able to send back to the United States a

good lot of queens where he can pick them out right on the spot.

SELLING HONEY AT COUNTY FAIRS AND ELSEWHERE; THE GREAT STIMULUS OF LIVE-BEE DEMONSTRATIONS IN MAKING SALES.

ON page 952 of our issue for Sept. 15 I described how we had increased our honey sales at our county fair by putting a man in a large wire-cloth cage with a big colony of bees which he manipulated in all sorts of fantastic fashions. He would pick them up before the wondering crowds by the handfuls, and display them with bare hands and arms to the people. It will be remembered our sales here at the Medina grounds were, by reason of this exhibition, nearly doubled. At the Akron fair — a fair that approaches the general proportions of a big State fair — we put up a honey-booth, showing honey in its three styles — liquid, granulated, and in the comb. In a conspicuous place on the sales counter was a large observatory hive showing the bees on the combs and in the sections. Of course, the people were invited to see the "bees make honey." Then we had in the foreground, right where the crowds were going back and forth, our large wire-cloth cage in which we had one of our bee-men making demonstrations, opening and closing hives, pulling out the combs, hunting for the queen, etc. The bees were shaken into a box, and scooped up by the handfuls where the crowds could see them.

AN OFFICIAL OFFICIAL.

But we had hard work in the first place to convince the proper official, who had charge of the exhibits, that our live-bee demonstration was really an attraction. He was not going to give us the space — not even to sell honey. He was a horseman, and seemed more interested in horse-racing than anything else. Even when we showed him a letter from the secretary of our Medina Co. Agricultural Society, explaining that our live-bee exhibition was one of the most attractive features of our fair, he seemed disposed to poke us off into an obscure corner. But Mr. Warren, who has charge of our honey department, was not to be waved aside in that way. He finally secured space between an ice-cream stand and a booth where light lunches were served. That was just what we wanted. But our big wire-cloth cage had to be put in the background behind the honey-sales stand. What was the result? The sales for that day were very light. I made a special trip to Akron to see how the boys were coming on. I found them considerably discouraged. If they could only get that wire-cloth cage out in front where the crowds were they would have some show of selling honey. Mr. Warren urged me to go with him to see our official, and make another last attempt.

To this I finally assented. We started over, and met our man, but found him still indifferent. We at length got him to say that he would come down in the morning and

look the thing over; but he did not want any "attraction" that would draw off from the horse-races. We went back to our stand. In the meantime we "got busy." We hunted up some of the other officials, explained what we had, and how we were handicapped. We said we would guarantee one of the most interesting attractions on the grounds. We would have a man inside of the cage, with bare hands and bare head, with bees all over him, and he would pick them up by the handfuls and pat them on the back. "That will be a great sight," they said, and they promised to use every "influence" to help us out.

SALES DOUBLE.

Well, to make a long story short, our demands were granted the next day. We caged our man with the live bees, and then he began his "stunts." We almost blocked the busy stream of people. They fairly jammed around the honey exhibit. Our man in the cage would tell a little story about bees, what the appetites of the people, then point to the exhibit of honey just opposite. What was the result? The sales were more than doubled on the second day, and continued good right along through the other days. When the crowds got light, one of the boys would step into the cage, scoop the bees up, and hold them in his bare hands, to the utter amazement of the crowds that surged about. We took occasion to refute the comb-honey lies, and then asked the people to step over and take a free taste of our honey. Everybody was allowed to sample. Some of the time it took four men to wait on the people anxious to get the honey. On the second day we cleaned up all we had of the brick honey, and had to telephone to Medina to have a lot more sent over by the next express. But this was not all. We met people from all over the State who gave evidence of their surprise and pleasure at learning the true facts about the honey business. Many would ask where they could get more of that honey after the fair was over. "Right at your regular grocery here in the city," we would answer, for we had already made sales at all the principal groceries.

We paid all expenses, and more too; told hundreds and I may say thousands the real facts about the honey business. What is more, we have started a trade for the future; for whoever bought at this fair will want more of the same brand of goods.

A LIVE-BEE DEMONSTRATION AT EVERY COUNTY FAIR IN THE UNITED STATES.

Now suppose, dear reader, that at every county fair in the United States an exhibition of this kind were made. Suppose you plan right now for your county fair. If you handle it right you pay all expenses and make a nice little profit besides. Perhaps you will not have to send your honey to the city market. Besides selling off a good portion of your crop you will have laid the foundation for a steady demand for it in the future. Consumers will call for your honey

at the groceries, and then your grocers will come to you.

But this is not all. If at every county fair in the United States a demonstration of this kind were made, the comb-honey lie would receive a death-blow. We could sell five times as much honey as we sell now if consumers could only believe it is pure and not manufactured. Convince the dear people that John Jones' and Jim Brown's honey is all right, at least for their several localities, and their honey will sell as it never sold before.

Of course, dark honey and all ill-flavored goods must not be sold at fairs. Use only the very finest of your crop; and then, while you are about it, get a gilt-edged price.

WOODEN SPOONS AND A FREE TASTE OF GOOD HONEY.

And that reminds me there is nothing like letting people taste of your goods. How did we arrange it at the county fair? We had a large quantity of little wooden sticks $\frac{1}{16}$ inch thick, 3 to 4 inches long, and about $\frac{1}{8}$ inch wide. We would take a clean stick for every person who wanted a sample, dip it into the extracted or brick honey, and hand it over, and, say — you just ought to have watched the expressions of approval. Some would go away with a brick or a bottle of honey. Others would pronounce the stuff *so good* they would want a whole gallon of it, and a gallon they got.

SALES DEPENDENT ON ATTRACTING THE CROWDS.

The secret of making sales at fairs is, to attract the crowds, and a bee-keeper can do that to perfection. Why, dozens and dozens of people would tell us that the feat of taking up handfuls of real live bees with the bare hands and bare arms was more wonderful than to see a man go into a cage of lions and do great stunts with those brutes. One man said, "Compel me to go into a cage of lions or bees, and I'd take the lions." This illustrates the feeling of many. The public is simply amazed. Everybody talks about it. The result is, crowds will flock around the honey exhibit to see "that man stung to death." Of course, everybody does not buy, but he receives some valuable information that may lead to his being a customer for somebody's honey at some time in the future.

LIVE-BEE DEMONSTRATIONS AT BEE SHOWS.

Elsewhere in this issue Mr. W. K. Morrison recommends a big bee show at Chicago or New York, something on the line of poultry, automobile, and horse shows. Now, suppose there were a dozen big cages, and bees were handled inside of a big hall, where a crowd could go and come. Suppose a lecturer or two were engaged to talk to the crowds as they went by, pointing out the various demonstrations that were being made. Then suppose there were attractive exhibits, and good prizes for the best show of honey. Then suppose there were selling booths where honey in convenient packages

could be obtained, and where prospective customers are allowed to sample the goods, with good clean wooden spoons. Well, don't you think in that case the honey business in that city would receive a wonderful stimulus?

FREE ADVERTISING.

The great metropolitan dailies would be all agog about it, and the comb-honey lie would go glimmering. I'll have some illustrations that will show the style of our bee cage, and the crowds that assembled to see "the man get stung."

CAUCASIANS—CONFLICTING TESTIMONY.

The American Bee-keeper for October is inclined to regard the Caucasians "as the most worthless race of bees that has ever been offered to the American public;" and it would advise caution on the part of those who think of investing in them. Editor Hill may be right. Dr. D. E. Lyon, on the other hand, who has a colony of these bees, is very enthusiastic over them. He says he can jerk the hive open in cool weather, without smoke, and the bees will not resent it. He regards them as a valuable acquisition. The one or two colonies we have seem to be quite gentle; but the bees were too young at the time of my examination to form any thing like an accurate opinion of their temper. However, *GLEANINGS* believes they are worth testing, and looks with much favor on the effort of the general government to obtain them from the Caucasus, and import them into the United States. One serious objection to them I see is that those we have look so much like black bees (much more so than Carniolans) that it would be almost impossible to determine by their markings whether they were pure or not, especially if raised in a vicinity where black drones were present.

COMB FOUNDATION IN THE UNITED STATES NOT ADULTERATED.

A WRITER in the *American Bee-keeper* throws out the insinuation that comb foundation made in this country is adulterated. He says he "got ten pounds of thin super foundation from one of the largest firms that makes and handles bee-supplies. It was almost white, and even in the hottest weather it did not get soft. I think it contains a pretty large percentage of paraffine." The editor of the *American Bee-keeper* believes the charge to be "quite unfounded and exceedingly unjust." He does not hesitate to assert that the whole evidence is, in his opinion, "confined to the mind of the accuser." Quite right, Bro. Hill. Even if the manufacturers of comb foundation had no moral scruples (and I think they have), they are business men enough to know that about the quickest way to ruin their own business of foundation-making would be to adulterate their wax with paraffine and ceresine. All the manufacturers buy their wax from bee-keepers and others of known reputation—at least we do. They might inad-

vertently get a little adulterated; but every cake of wax that comes into our foundation-room is carefully inspected by an expert. Several times has he rejected suspicious samples. On one occasion he rejected a whole shipment. We compelled the seller to take it back right speedily or stand damages. He took it back.

The mere fact, as averred by the correspondent, that the foundation in question was white and hard only goes to show that it was pure beeswax and not paraffine, and had probably been made for some time, during which it bleached. Thin super that has been made for six months or a year, even of the purest wax, will be much whiter and somewhat harder than that just from the mill.

The accuser says the foundation-makers have never denied putting out such an article. When this matter came up some time ago it was denied most emphatically. For evidence of this, see page 644, June 15.

SPECIAL ISSUE GLEANINGS IN BEE CULTURE.

WE are pleased to announce to our subscribers that extensive plans are now under way for a magnificent Christmas (Dec. 15) issue of *GLEANINGS*. It is planned that this issue shall by far exceed in its wealth of contributed articles, its half-tone illustrations, and its cover design, any thing heretofore attempted in bee-keeping literature.

The cover is printed in three colors by one of the best color-printing establishments in the United States. We were not satisfied to attempt this ourselves, and have gone to great expense for the printing of this cover. The design is something unique, and very pleasing indeed. It shows the red clover in its natural colors in all its beauty, and, all together, will make a bee-keeper's magazine that will compare favorably with any of the literary magazines of to-day.

During the past summer we have had a special artist who has been sent to various points especially to take photographs for us. He has traveled on our account alone the past summer over 4000 miles, and we can promise something very fine in our half-tones for this issue. In this announcement we are unable to specify definitely the subjects that will be given, but those who are at all familiar with *GLEANINGS* for the past year will know that a treat in illustrations is in store for them. We can definitely announce now that some of the prize photographs in our second photographic contest, American and foreign, will appear in this issue. Our engravings are made by the very finest engravers in the United States, insuring first-class work in every respect.

MISS BESSIE DITTMER, daughter of Mr. and Mrs. Gus Dittmer, the foundation-maker, was married, Sept. 20, to Mr. Julius Hammer. Miss Dittmer is a young lady who created a very favorable impression at the Northwestern, in Chicago, last winter. Any man who could win her hand ought to be extremely happy.



HONEY PUBLICITY.

The Great Possible Value of the Honey-producers' League; Suggestions as to How this may be Accomplished; a Similar Case.

BY STEPHEN N. GREEN.

As a student of advertising, the problems that the Honey-producers' League have undertaken are to me very interesting. The first reading of the constitution, from an advertisers' standpoint, suggested some improvements, particularly in regard to a trade-mark. Unless the Executive Board has power to provide for a trade-mark the League is making a serious mistake the first year of its life; but I will speak of this matter later. Being only indirectly interested in the League, after first glancing over the prospectus the matter slipped my mind until reading an article on a similar project. The case of the honey-producer and the prune-grower was such a striking parallel that I became again interested, and have put some study on the subject. The article to which I refer is "Prune Publicity," by Homer C. Kratz, of California, in the August number of *Ad Sense*. I am quoting the article practically complete. The italics are mine to emphasize the points that I wish especially to enlarge upon.

The San Joaquin Valley, and Fresno County in particular, produces nearly all the raisins used in the United States, and it is also a prolific producer of that much-abused article, "prunes."

Indirectly, the attempt of the funny man to have his joke at the expense of the prune has cost the growers of California and Oregon much money.

The joke about being "full of prunes" has been no joke to the growers. It has hurt the sale of their product, and will eventually cause them to spend many more dollars to remove the impression that the prune is a joke.

We will agree that the prune is one of the most healthful and delightful fruits grown. There is hardly another more beneficial to the user. There is not another fruit with its keeping qualities and its cheapness to the consumer; yet with all these advantages the prune-grower does not make money. He never will until he begins using persistent, logical, and convincing advertising. He will have to spend many dollars that may apparently bring no return, yet all the time good is being done in educating the people up to the necessity of using prunes.

There are many examples of the class of publicity before the prune-growers. The *Breakfast-food people* have demonstrated clearly and conclusively that advertising will sell any thing.

I venture the assertion that I can take alfalfa—one of the staple crops of Fresno County, in California—burn it, bake it, grind it up into a breakfast food, advertise it by telling of its health building properties, and sell it by the thousands of tons. A nice little story about its recently discovered nutritive qualities—its nerve-building, brain-restoring possibilities—and its wholesomeness will send the food-crunk to the grocer for "Alferina" breakfast food just as quickly as he goes for H. O. buckwheat, or grape nuts that are not made from grapes.

The first step in prune publicity is co-operation. No individual grower can succeed in making the public use more prunes. There must be an association of growers. There must be a fund for the dissemination of prune knowledge. There must be intelligent direction of the distribution of these funds. The story of the prunes must be told in an interesting way—the pictures should show the orchards in all their beauty—the advertising should create a desire to eat prunes, and, after being eaten, should make the eater feel that his system is being built up.

Glittering generalities won't sell prunes—the talk must be clear, concise, logical, brief, pithy. Let the medical man tell his story. First get the health facts from him, build on that structure, and you will build as the patent-medicine and the breakfast-food man does; you will see the dollars come rolling in faster than they go out.

We will all agree that any food product, to be properly advertised, must be known by a distinctive name, brand, or trade-mark. Whether the prune is grown in Oregon or California, there must be a distinctive title that the buyer will recognize and want.

The advertising must appeal to women, as they do the buying; and if they get interested, many a man will get prunes who never tasted them before.

Prunes go upon the market in an unappetizing condition. They look hard, and, to the uninformed, moldy. The man or woman who does not know how delicious they are will be sure to pass them by. Now, in addition to educating the public in the use of prunes, let us go a step further and give the public a package it will appreciate. Why not put a brand of prunes on the market all ready for use—already cooked—put up in glass jars, so that the clear juice and the rich syrup may be seen. *The tempting fruit will make itself wanted at sight, and will bring a high price.* If the housewife could get her prunes already cooked, only needed warming, how much more would she use?

We have before us the examples of the meat trusts in putting prepared food on the market. Ham, corned beef, chickens, turkeys, horse meat (and Oregon puts up some of the latter), all go to the consumer ready to use, and the result is seen in the millions of dollars sold annually. I think canned dog might be put on the market under another name, and, with persistent advertising, pass for a health food.

Prune-growers should profit by the experience of those who have grown rich giving the public the things they will buy. *Establish your brands and your trademarks;* ship none but good fruit; put up prunes in an appetizing way, and tell the people your story every day. Tell it to the women; the hand that rocks the cradle can fill the prune-grower's pocket if it chooses. Woo woman into using prunes, through the press; make her understand the value of prunes, and, as I have written before, many a man will be "full of prunes" before he knows it.

THE ATTEMPT OF THE FUNNY MAN TO HAVE HIS JOKE.

The bee-keeper may gather one grain of comfort, that he alone has not been the only target for the arrows of the "funny" man. That little joke of Mr. Wiley's, that he did not label, is not the only one that has made the innocent suffer. Now, right here is where the League is doing a work that alone justifies its being. When one comb-honey lie appears it should get a retraction, and publish ten good articles to make up for the one bad one. Not only use the pound of cure, but remember the ounce of prevention. That statement to go into shipping-cases should be well taken care of by every manufacturer or producer. This kind of "free" publicity costs but little, and is *very effective*. Use it to the limit. Get the newspapers everywhere to publish interesting truthful stories about bees and honey, and you get the people to talking—just the best kind of advertising.

ADVERTISING WILL SELL ANY THING.

Yes, if you can sell sawdust for breakfast food *why can't you sell honey by the mere*

force of advertising? Honey presents magnificent opportunities for good advertising. Why, the great advertisers themselves use honey as a standard for comparison. Does not "Nabisco" remind you of honey? and, too, the National Biscuit people recommend its use with their Uneeda biscuit. The Rubifoam people tell you their dentifrice is "as sweet as honey," and how the Karo-syrup people did disgrace the fair name of honey to elevate their glucose mixture! for who will forget "better than honey for less money"? By the way, what has become of "Karo"? Let me say right here that even advertising can not fool all the people all the time; but I will take up the matter of merit as the foundation of advertising success later.

ADVERTISE HONEY — NOTHING EASIER.

What news the chemist can tell you! and the doctor! and don't the children cry for it? Is there any thing more delightful to the taste than good honey? How many products come in such a variety of forms, and can be put to so many uses?

THE FIRST STEP IN PRUNE PUBLICITY IS CO-OPERATION.

Naturally the first step in honey publicity must be co-operation. The Honey-producers' League is the way; but the bee-keeper must furnish the means. Join the League. Don't put it off. Don't wait for the other fellow to do it, and you expect to get the benefit. Make this a personal matter. If you don't get into line the League can not be the greatest possible power. If bee-keepers don't co-operate, the honey market will not pick itself up. If you don't co-operate you will always get low prices, your product will be slandered, your interests will be trampled on. *Get together—co-operate.*

MUST BE KNOWN BY A DISTINCTIVE NAME, BRAND, OR TRADE-MARK.

Right here is the only fault I have to find with the League. I read the constitution once, then again. What! no provision for a trade-mark? Have the founders forgotten a fundamental principle in advertising? Well, they will some day see their mistake, and it is easy to remedy, as the powers of the Executive Board are broad. Am I not right about this? For instance, can you name (?) an article successfully advertised that has not a distinctive name, brand, or trademark, or uses an apt catch-phrase? Aside from the absolute necessity of an article having a trade-mark, there is another side to the matter. When the League overlooked a trade-mark it also overlooked a quality in human nature, and bee-keepers are human. Nearly every one expects direct returns from his money. Not many of us can afford to invest our hard-earned coin in philanthropic enterprises; we must get some in return. As the League now stands, it offers its members little direct returns. Now, a trade-mark on a member's product would raise the market value of it, providing, of course, the trade-mark be properly advertised. When a bee-keeper sees that

he gets two dollars for the one he invests, the League will not have to work for subscribers. Oh, no! they will simply rush for admittance. Advertising a trade-mark will produce direct returns for the League's members, without a trade-mark (understand by this some distinct brand of some kind). Your advertising is sure to reach an end, for such advertising feeds itself little, so has no means of growth. If the League does not give its members some benefits over and above what the outside gets they will be very slow to subscribe, and extremely hard to get.

APPEAL TO THE WOMEN.

I do not know what plans the League has for advertising its product; but it surely can not fail to see the need of placing the bulk of its advertising before the women. It's the women that set the table, and it's the women that buy, so it's the women that the League must reach. Woo the women! Tell her your story, Mr. Honeyman, and you will not complain of slow markets.

WANTED AT SIGHT, AND WILL BRING HIGH PRICES; QUALITY AND ATTRACTIVENESS, THE TWIN SISTERS OF SUCCESS.

Honey has the quality. But don't let honey without quality get on the market if you can help it. Don't make the fatal error of letting the League's trade-mark cover a poor product. Make sure of this matter in some way. What is more disgusting than unripe extracted honey? It will spoil ten sales where one is made. Make it a very serious offense in the League to market such honey. Show the outsider where he is penny wise and pound foolish in doing this. Give good weight. If the section doesn't weigh a pound, do not allow this impression to be carried. When a section doesn't weigh the full pound, honestly say so, and charge less for it.

Honey is attractive, and attractiveness is a great selling force. Market the best grades only, and see to it that grading is done right. Don't, don't allow your trade-mark to market an inferior article. Strictly grade your comb honey; and bottle and neatly label the extracted; carefully sack the candied. Expect and ask a good price for your product, and you will get it, and have no trouble in doing so.

ESTABLISH YOUR BRANDS AND YOUR TRADE-MARKS.

To sum up, spend your money in judicious advertising in magazines, newspapers, etc. Get all the free advertising possible, you using your influence at home and abroad. Talk honey yourself, and be enthusiastic over it. Get a trade-mark, and make it stand for something. Then the Honey-producers' League will be on the road to success, and be a powerful factor in the honey markets.

The problem is a complex one, and I have not by any means touched all the points. It will not be completed in a day. Mistakes will be made. But don't make the greatest mistake — not doing *any* thing. There is

abundant material in beedom — brains and product — to make the League a great success. Don't wrangle among yourselves. Forget your *little* differences in the *great* cause. Make your motto, "Co-operate and advertise." You may then rightly expect a bright future for honey.

Medina, Ohio.

MOLD.

How it Grows; is it Detrimental to Bees?

BY F. G. SMITH.

Knowing that many bee-keepers regard the bees as able to clean up moldy combs and make them as good as new, I wish to give the result of my observations, and my reasons for regarding it as an unsafe practice to follow.

First, let us consider the nature of mold. It is not a chemical product that can be produced at will by bringing about the right conditions, but it is a living organism, and, like all forms of life, is the product of pre-existing life. It also produces, as do all other forms of life, more of the same kind; and, under favorable circumstances, the increase is very rapid; under others there is no reproduction at all. The vital germs of reproduction are not contained, as in the case of the higher plant growths, in a true seed, but are in the form of spores; and these spores are very minute, and have the power of remaining dormant for a time, to spring into life at the first favorable chance, and increase with a rapidity unknown in the higher forms of life.

Thus it follows that, for mold to exist, there must be both the spores present and favorable conditions for their development; and the more spores and the more favorable the conditions, the more mold we shall have, and the more spores to produce mold. Safety, therefore, lies in keeping the mold out of our hives and not letting it get a start at all. If we fail in this the next best thing is to destroy every trace of it. Can the bees be trusted to do this? I think not—not but that they may in a good many cases do so, either by carrying it away or making it too dry in the hive for it to grow. But the fact that it does grow in the hive with bees shows that the spores often escape destruction by them. The covering of the germs with honey or comb does not kill them, for they will go through a comb and so spread on both sides of it at once from a common center.

Then it naturally follows that, the more mold there is in the hive, the more likely it is to get the start of the bees during a cold damp spell, and the more time they will have to spend over it when they might otherwise be at work gathering honey or rearing brood; and my experience satisfies me that, when one uses moldy combs, he is much more apt to be troubled with mold again. Of course, we can not always keep mold out of our hives any more than we can

keep weeds out of our farms; but the more weeds we let go to seed on our farms, the more trouble we shall have with weeds in the future; and it is reasonable to suppose it is the same with mold.

This year I had some hay that got wet after it was bunched up, and in the bottom of the bunches were some moldy spots. When I drew it, some of these spots were so small that I paid no attention to them. One load was quite damp, and I let it stand on the wagon several days. When I did unload it, some of those little spots had spread nearly across the load, and had ruined nearly half of my hay; yet there were places in the load where there were no moldy spots put in, and no mold appeared there, though the conditions were just as favorable for its growth as where it was, because there were no spores present, and so they could not grow.

It taught me a lesson, and I said that, hereafter, I would not draw in any more spots of moldy hay if I knew it; and I would burn moldy combs and disinfect with a strong germ-killer every hive that became moldy. Then I would open them to the sun and air for a time, and then kill any scent of the germicide with the scent of anise or something else that the bees like, before using. Perhaps a good sun bath might be sufficient for the bare hive and the frames if the sun were hot, as sunshine is a great germ-destroyer; but I would not risk it under unfavorable circumstances.

Blanchard, Mich.

[What you say about mold in general is correct; but it is seldom, I think, that it does any damage in the hive. Nearly every spring there will be a sort of blue coating or mold on some of the combs in the hives; but I could never discover that they were in any manner detrimental to the bees. There is another mold that we find on a mass of dead bees that means no good to the live ones. There is still another mold that is found on combs affected with pickled brood. Such combs should be melted up, not necessarily to get rid of the mold, but of the disease itself.—ED.]

MOVING BEES TO OUTYARDS WITHOUT CLOSING THE ENTRANCES.

The Plan a Success, but some Precautions Need to be Observed.

BY E. F. ATWATER.

Mr. Root:—You ask for the experience of those who have moved bees without shutting them in the hives. I first heard of this method through Rambler's article telling how Mr. Stearns, of Selma, Cal., moved his bees. Then a year or two ago friend A. T. Pennington, of Arcadia, Oregon, told me of moving bees in that way.

This spring, having several yards to move, we put the method into practical use, always on a spring wagon. Our method is to sub-

due the bees by smoking and drumming, then we load them on the wagon. Even on a hot summer day it is rare for a bee to take wing after the wagon is started. Our experience is with Italians and Carniolan-Italian crosses.

The crop here has been a failure; so in August we decided to locate a yard of 100 colonies in a good range about 36 miles from home, where prospects were better. For this long trip we stapled lids and floors to the hives. The first load of 27 hives was started on a cool morning when bees did not fly. This load was on a spring wagon, and went right through to its destination without any trouble. This same cool morning we prepared two more loads, using "deadax," wagons with hay-racks and a few inches of hay. The first load started nicely, but the incessant jar and rattle soon aroused the bees, and from our position on the next load we saw that the bees were annoying the horses. We went perhaps half a mile with our load, but the bees were so fearfully shaken up that they showed a disposition to attack the horses, especially as a horse shakes its ears so frantically when a bee is near. Finally our team stopped, and, when released, we had something of a tussle and scrimmage before we got them away. Just as we got our team safely away I saw that Mr. Rinard, driver of the other team, was having trouble. His team had stopped, and was rearing and plunging. My assistant helped him to unhook, but his horses broke away and ran perhaps a mile before he caught them. We had both sets of harness repaired; and that night, as soon as the bees were all in the hives, we started again.

My load made the trip successfully; but a cloud of smoke was allowed to drift back over the load. At every chuck-hole, culvert, or stone, a few bees would take wing, but the horses were not stung.

After Mr. Rinard had gone about six miles one of the tires came off and the bees were set off to remain until the next week, when we moved them with entire success on our spring wagon.

Now, when you go to move bees in this way see that they are, first, *subdued*; then load on a *spring* wagon, always. Use a smoker to subdue any rebellious colonies while loading. Cover tops and half way down the sides of hives with a large wagon-sheet, so that smoke blown under will reach all the hives. Drive carefully, though you can allow the team to trot where the road is good.

Next summer I shall have heavy muslin covers for the horses, with head completely protected, and so avoid any likelihood of accident whenever the horses need be near the bees.

In closing, if any one tries this method and loses a valuable team, or has a bad accident, don't blame me, as I am not recommending this method; but in this way all our bees will be moved when moving is necessary. The colonies come through with vitality unimpaired, and ready for a honey-

flow, without the disappointing dwindling that many have noticed when moved by the old methods.

Boise, Idaho.

[We have had enough reports now relative to moving without closing the entrances so that we may say the plan is a success when carried out properly.

But I do not quite understand why a spring wagon would be better than one without springs. After bees have been subdued with smoke, and been bumped and jarred, and this bumping and jarring are kept up, they act demoralized, and are not inclined to sting—at least that has been my observation and experience. The spring wagon would serve, it would seem to me, to let the bees get back into a quiet state, then when there would be a sudden jolt they might rush out and offer an attack. I can only suggest that the reason why the moving in the one case resulted in trouble was not because of a lack of springs, but because, possibly, some particular colony, ordinarily easily irritated, had not been fully subdued in the first place with smoke. I may be all wrong, but I should be glad to have some of our subscribers, who have had experience, correct me if so. I expect to have one of our outyards brought in without closing the entrances; but, mind you, we will have the king-bolt so that it can be easily withdrawn, thus releasing the team in case of trouble.—ED.]

IS THE ONE-POUND SECTION A MISTAKE?

BY T. K. MASSIE, STATE APIARIST.

On page 813, under the above caption, Dr. Bohrer indorses Virgil Weaver's condemnation of the "so-called" one-pound packages. L. V. Rickets and others in the *American Bee Journal* have expressed similar views. I think these gentlemen all make a mistake when they condemn the section as such. The public has been taught by bee-keepers, supply-manufacturers and dealers, and the bee-journals, to look upon the section as a one-pound package, and this, too, without regard to their size or shape. Honey produced in the "Standard separated sections will not average a full pound, and consumers are fast finding this out. Then they reason like this: "Bee-keepers are cheating us in quantity — this we know; and if they will cheat us in quantity they would cheat us in quality also, and sell us sugar syrup or glucose, and call it honey."

I sell all my own honey direct to consumers (none of it is ever shipped to the congested markets), and I know, therefore, whereof I speak. I have frequently met with that kind of argument. There is no use in doubting the fact that the light-weight section is largely responsible for the great falling-off in sales of comb honey; and when Messrs. Weaver, Rickets, Dr. Bohrer, and others condemn the fraudulent part of the sections — the light weights — they have my hearty "Amen."

Nearly three years ago I published my book, and on pages 53 and 54 "sounded the alarm" on the light-weight sections. I mailed a copy to almost all the principal writers for the bee journals and to all the journals, but no attention was paid to it. "Too radical," I suppose. It seems that a few are now waking up and see the folly of shutting our eyes against facts. Had all bee-keepers exhibited the right spirit (worked on the "square-deal principle) toward the consumers, the organization of a "Honey-producers' League" to push the sales of honey would never have been necessary. I sell all my honey direct to the consumers — my home customers — and could sell thousands of pounds more if I could get "honest goods." My sections are $4\frac{1}{4} \times 5 \times 1\frac{1}{8}$, plain. This size will, when well filled out, average a shade over a pound. I am changing all my supers for the 4×5 sections into chunk-honey supers by simply nailing a top-bar between the end-pieces of the section-holders. The 4×5 plain section will not hold a full pound of honey. All unfinished and light-weight sections are put with the chunk honey. The honey is cut out, packed loosely into tin cans (the friction-cover cans are excellent for this purpose), then thoroughly ripened extracted honey, which has been carefully strained, is poured over it till all the spaces are filled, and the comb literally floats in the liquid honey. This sells readily as comb honey at 18 cents per pound. It is not necessary to mention all the advantages of this plan. Wideawake bee-keepers will see the point. It gives us satisfied customers who always "come again" for more of that extra-fine honey, the "best" they ever used; solves, to a great extent, the question of disposing of extracted honey, and it educates the people to know that liquid (extracted) honey is more palatable — is better every way — than comb honey, the beeswax in which is absolutely indigestible.

I notice what our friend A. I. R. says in his footnote. I see that he doesn't complete the third line till he calls the section a "one-pound section." I agree with the remainder of his footnote. The facts stated are correct, and the sentiments expressed are proper and right. I notice, also, what Dr. B. says in regard to the laxity of our pure-food laws, so called. The doctor, and others who have expressed similar views, seem to forget that commercialism is at the bottom of all our trouble on this point.

Tophet, W. Va.

THE TOWNSEND METHOD OF PRODUCING COMB AND EXTRACTED HONEY..

BY EARL SAFFORD.

I noticed Mr. E. D. Townsend's article in your issue for June 1, and would say that I have been using practically the same arrangement of super as he describes, for the last three or four years, with good results. I use the ten-frame Langstroth hive and Ideal super, putting one or (preferably) two

shallow frames of comb on each side, and four or five rows of sections, 20 or 25 through the center, and find it to be the best plan I have been able to discover whereby swarming can be practically controlled and bees kept hustling in the supers. When I first commenced using this arrangement I made frames on the closed-end-frame style by cutting up the bottom slat for end-bar, and making the top and bottom bars $\frac{3}{8}$ and $\frac{1}{4}$ thick, and just long enough so one frame would occupy the same space as one row of sections; then when the bees got to working well in sections I sometimes took out the frames and put sections in their place. But this made considerable work; and as I have as good sale for extracted as for comb honey I now prefer the regular shallow frame.

Spaces for the frames are easily made by driving two small nails or staples at proper distances from the side in each end of the super, and setting the first fence separator against them instead of the side of the super. Some might object to using two sizes of frames; but for me in this locality I think it a great advantage to do so. With me the shallow frame for brood-nest has not been satisfactory; but for putting on top of the Langstroth-frame hives at first in spring they are just the thing to catch the first honey and keep the bees from crowding the queen.

Salem, N. Y., July 7, 1905.

TROPICAL BEE-KEEPING.

A Reply to W. K. Morrison's Article, P. 655;
the Color and Quality of Tropical
Honey.

BY LESLIE BURR.

Allow me to make a few remarks on that article by W. K. Morrison, on the principles of tropical bee-keeping. It is true that much of the tropical honey is dark and inferior. Something over two years ago I was at the office of the National Biscuit Co., Chicago, and was there shown samples of honey from a number of the tropical countries. There was not a sample in the lot that a Northern honey-buyer would call first class.

The reason for this is that the honey was stored in brood-combs. I know it is true that old brood-combs will darken the honey; but I also know it is true that a smaller per cent of Cuban honey is produced in old combs than that of the North. For instance, the honey produced from the "cajas creolla" by the native Cuban is, as Mr. Morrison says it should be, produced as it is cut from the hive, combs and all. But I should like to have some one prove that this honey ranks any better than that produced by American methods.

The bellflower and a very few other plants produce beautiful white honey. The wax produced when the bees are working on the bellflower is as white as tallow; but later, when the bees are working on mango and

romerilla bloom, not only is the honey dark when gathered, but the comb built at that time is yellow. I have seen combs built on the south coast that were a bright-red color (as was the honey that was being gathered at that time). As to queen-excluders, when the extra-fine honey of Cuba is being gathered (from the bellflower) there is no need of an excluder to keep the queen from laying in the supers. The trouble is, to get any brood at all. I have gone through colony after colony, and found only three or four frames to the hive that had eggs in them.

When a colony that is not extra strong has on an excluder, what does it do under those conditions? What happened two years ago was that they blocked up the holes in the excluder and did not worry about going into the super.

As to his next point, cutting out all of the combs and having them built new, ye bee-keepers of Cuba, cut out all of your super combs just as the white bellflower is at its height (and the nights so cold that the bees can not make comb honey in sections). Just think of all the honey and wax you would get, and such nice honey too!

Again, as to cutting out the combs and hanging them up in muslin bags, I have uncapped between 9 o'clock and 4:30 enough combs to make 300 gallons of honey. Now, how many muslin bags, and tanks to catch the drip, not counting the room you would need to work in, or the time spent in waiting for the honey to drain, would be needed by this method? Say a muslin sack would hold 50 pounds of the mashed combs. There would be needed to handle 300 gallons just about 80 muslin bags. Then what would be the cost of making tanks to catch the drip? Yes, Mr. Morrison, I think it would be best to go clear back to the first principles, and produce your honey, "la Cubana con los cajos creolla."

Now for the last statement. Bee-escapes pave the way for easier labors. Perhaps it would be a good thing to ask that practical bee-keeper, W. L. Coggshall, if he had three or four hundred gallons to take off a day would he use bee-escapes?

Casanovia, Cuba, June 26.

FOUL BROOD IN APIARIES RUN FOR EXTRACTED HONEY.

The Use of Queen-excluding Zinc Helps to Keep Down the Disease.

BY ELMER TODD.

[In order that the reader may fully understand the article which follows, which is a rejoinder to Mr. J. A. Green, it is, perhaps, well to state that Elmer Todd, on page 140 of the *Bee-keepers' Review* for May, stated that, in his opinion, it was perfectly safe to extract from the upper story of a colony containing only a few cells of foul brood, providing a perforated zinc separated the upper story from the lower; but he emphasized the importance of using no combs from the lower story of diseased or dead colonies, or such as may contain the dried-down scales of the dead matter. Mr. J. A. Green, in this journal, on page 807, stated that, while it was doubtless true that a large proportion of the honey in the upper story of a diseased colony was not infected, he did not think it would be safe to depend on any of it

being incapable of conveying disease. He then quoted Doolittle as saying that a good deal of honey in store-combs had first been put in brood-combs below and carried above; and then added that he was sorry to see such things published, because most people were too ready to take chances. Mr. Todd's reply is as follows:]

I note what J. A. Green has to say,^{page 807,} on my foul-brood article in the *Bee-keepers' Review*. After reading his comments I see that he conveys a rather wrong impression, and probably does not understand some of the points of the article.

That article is based on actual practice and experience, without any fine-spun theories that will not admit of proof.

I would respectfully request him to read it once more, also the editorial that induced me to write it, and then give it the easy proof (if he has the material at hand) as indicated in that article before condemning it as impracticable.

The use of queen-excluding zinc may not be safe in theory; but it is in practice with a colony that is but slightly diseased, as I said in that article. I made no claims in the article referred to, only that, by using a queen-excluding zinc, foul brood could be controlled in a locality where foul brood is rampant as easily while producing extracted as if the apiary were managed for comb honey. This point Mr. Green seems to have entirely overlooked.

In extracting from combs containing brood taken from a diseased colony, the force necessary to throw out the honey is also sufficient to throw out theropy contents of diseased cells. My experience is that, in the majority of cases, where the disease was contracted in the spring by a populous colony, the disease will exist in this stage for a comparatively long period, sometimes during the whole summer, by the bees not allowing it to remain long enough in a cell till it has had time to dry down to a scale. The baskelets and wire netting of the extractor become daubed with this ropy contents of diseased cells, so it is not necessary to place a comb containing diseased brood into a clean colony to infect it. The extractor will tend to that; and it is an admirable vehicle to convey the disease through an extracting apiary after the disease once gets a start, and it can be depended upon to do the business quickly and thoroughly if combs containing brood are extracted from.

Now, a queen-excluder positively eliminates all that danger, and is absolutely certain to lessen greatly, if it does not entirely do away with, all danger — enough so that the disease can be controlled as easily while producing extracted as if the apiary were run for comb honey. It most certainly removes the certainty of a direct contamination by daubing every comb that may pass through the extractor, with more or less of the contents from diseased cells; and the excluder leaves only this indirect chance of contamination to be reckoned with, of the bees first storing the honey in diseased cells in the brood-nest, and, later on, transferring it to the supers. But a few careful experiments along this line will show that danger, in the

case of a slightly diseased colony, is not so great in practice as it is in theory.

It would appear to me that, where there is foul brood in the locality of an extracting apiary, the need of the excluder would increase in proportion as the bee-keeper was incautious or lacked experience. In the case of such a bee-keeper, the excluder would be apt to confine the disease to the colony or colonies where it first appeared, until such a time as it would become well enough developed to show even a casual observer that there was something wrong. It is not an uncommon thing for foul brood to be present in a colony through the first season after inoculation, and show but a few diseased cells. Such colonies are dangerous ones if combs containing brood are extracted from.

York, Neb.

[I had decided I would not take any hand in this controversy, believing that our readers are perfectly capable of drawing their own conclusions after reading both sides; but I think we may all agree on this: To use queen-excluders in every extracting-yard where foul brood is to some extent, and to extract from no colony (either upper or lower story) where the disease is known to exist, even when there are only three or four diseased cells. Such a policy would eliminate to a great extent the chances of getting the trouble.—ED.]

CREATING A MARKET FOR HONEY.

Some Pertinent Suggestions; Why Not Create a Bee-show, to be Held in New York or Chicago, or both! A Valuable Article.

BY W. K. MORRISON.

Of all the knotty questions that have arisen in the last few years to perplex bee-keepers, none is more important than this. Some of the bee-keeping fraternity who live far from the madding crowd in cities may not realize just how much the existence of the bee-keeping industry is threatened by what is known as the comb-honey lie and similar attacks; but I think we are justified in saying it would be only a question of time when the bee-keeper's occupation would cease to exist. Just consider the situation for a moment. There are fortunes in glucose-making if the people can be fooled into eating it; and any one knows there are no fortunes likely to be made in keeping bees; so there is a big stake up for the glucose people, and only a living for us. The industry of making jelly and jam has been rendered almost non-existent by the glucose mixtures, and the same can be done with bee-keeping. The comb-honey lie would cut a poor figure if it were not for the fact that the people are aware of the common use of glucose as an adulterant, and steer clear of it as far as possible.

For fear some one will think I am stretching the truth, let me add a word or two about other industries. Some time ago the

dairy industry of the United States was threatened with dire disaster if the manufacture of oleo was not curbed in some way, and only drastic legislation by congress saved the day, but not before the United States lost a valuable trade with Europe in butter and cheese. It will be a long time before the United States regains that trade. Over in Canada, where no oleo is allowed to be made, they have a magnificent European trade in butter and cheese. Comment is superfluous. Quite a number of trades are weakened by the evil of adulteration or spurious imitation. Some of the finest old dyes have been pushed aside by the inferior aniline colors. Indigo, for example, has ceased to be profitable; so has vanilla culture been curtailed because artificial vanilla is cheaper. It does not make much difference if the cheaper stuff kills a few victims so long as it is cheaper; besides, the manufacture and sale of these inferior goods offers a far greater opportunity of making a fortune for some one. I can cite a familiar instance which shows very well what I mean. There are two kinds of butter-color sold in the United States, one made from an aniline source, the other from annatto, a fruit grown in tropical countries. Despite the fact that deaths have been traced to the use of this aniline color in butter, and that it is no cheaper than the other kind, it still continues on the market. Probably there is more money in selling the artificial kind. But what is more convincing still is the fact that the intelligent thinking people of all countries are now most studiously avoiding anything and every thing that savors of adulteration. They fight shy of honey, and with good reason, for they see that it can readily be adulterated. They have been told, too, by the newspapers that comb honey is an artificial production, and they simply won't buy it. The fact is, they are afraid of being poisoned with a concoction of glucose and paraffine. Can you really blame them? It was recently stated by an authority that 600,000 people (mostly children) lost their lives annually by the use of deleterious food in civilized countries, so they have abundant reason for being afraid of spurious foods.

How shall we convince the public that the bee-keepers' profession is not built on fraud? Simply by showing the public our way of doing business. Some one has suggested advertising; but our enemies can do more of that than we can. I say, do not spend a single cent on advertising. The greatest frauds in the world do lots of advertising. The poultry industry can show us just what can be done. The great shows of poultry in New York and other large centers have had a splendid effect on the trade at large. People have been educated into knowing what good poultry is like, and otherwise taught what to call for when going to the poultry stand in the market.

Some time ago the horse market was "slow," but the horse-shows promoted in the large cities created a great desire in many people to own a really fine horse, and

at the present time there are not enough really fine horses to go round.

This brings me round to the idea that at least one great bee-keepers' show will have to be organized in the large cities every year. It would take a considerable amount of hard cash to organize such a show, but the returns from admissions, etc., ought to reduce the actual loss to a small amount, possibly nothing. What we want is something thoroughly educative. We must show the public how comb honey is produced; and, furthermore, show that thousands of tons are produced annually, and, what is more to the point, that it is impossible to produce comb honey by machinery.

Organize a handsome show in New York or Chicago, and almost every daily paper in the country will have a notice of it that is far better than any amount of advertising. The principal feature of such a show ought to be bees and honey—not apparatus, though this should not be neglected. There should be honey by the ton of every kind—clover, raspberry, basswood, tupelo, palmetto, sage, alfalfa, catclaw, logwood, campanilla, in evidence at such a show. Honey should be on sale in large and small quantities, and every attempt made to make honey popular. A great deal can be done in interesting the city schools by allowing the children free entrance, etc. All this would entail a great deal of work; but other people do so, and so should we. The cost can be approximated by finding out the cost of the New York poultry show.

The bee-keepers' show ought to be a regular function of New York (and elsewhere) society every fall. I am firmly of the opinion we can put up as good a show as the hen-keepers, dog-owners, or horse-breeders; in fact, I believe that in beauty and scientific interest we can surpass all these people. By publishing the prize list about a year ahead, the bee-keepers would be in a position to "lick creation," or at least be able to make the city folks quite believe the bee-keepers are the sweetest men who live on Mother Earth.

[Our friend Mr. Morrison says he would not waste a cent on advertising; but in almost the same breath he proposes one of the biggest advertising schemes to popularize honey that has ever been proposed in these columns. He is to be excused, for his plan is one of the most sensible that has been proposed in many a day. Our great exhibitions, our county fairs, all advertise products of the factory and the farmer, and most effectively too. I do not remember that any one has before suggested the feasibility of holding a big *bee* show in New York or Chicago, such show to be conducted solely for the purpose of informing the general public about honey as a food.

I have recently attended a couple of fairs, have helped to make demonstrations of how bees are handled, honey taken from the combs, and I know something of what can be done by this kind of advertising, for advertising it is, of the very best kind.

If the National Bee-keepers' Association or the Honey-producers' League, or both, could arrange to get up a big show, rent some big hall, where the product of the industry could be elaborately shown, where hives of bees could be handled in inclosed bee-cages, so the general public could see the several processes of honey-production, I think we should see an awakening in our honey-market that we never saw before. Such a show ought to be held for a week, just the same as the great automobile shows, the dog shows, the horse shows, and poultry shows are held. Let there be representative bee-keepers present to make demonstrations; let honey be given in small samples for the public to taste, let there be big displays of honey. It will cost something, perhaps, but the result will be something magnificent. In an editorial in this issue I have something to say of the feasibilities along this line of advertising at a big county fair.—ED.]

LARVÆ OF BEE-MOTH GOOD FISH-BAIT.

Propolis Valuable for Making Shellac Varnish.

BY ARTHUR GOLDSBOROUGH.

Page 809 you ask for information as to drone larvæ. The larva of any insect is the very choicest of fish-bait. I have spent many hours looking for it, when trout-fishing, in old rotten logs. I have used ordinary bee brood only once, preferring to get larvæ from hornets' nests, very plentiful here, and a larger bait. Of course, there would be no preference except in size and ease of obtaining. But there is a product of the hive which beats even the brood; i. e., the larvæ of the bee-moth. No insect among the caterpillar can equal this, because they are so tough that they can not be nibbled off, and one larva will catch several fish. Let Mr. Halter breed some for his patrons of the rod. You can't keep bee-larvæ long; but you may put the little moth-worms in a box containing some old comb and web, and wait till they are large enough for fish-bait. Bees often pull out the moth larva and their own brood, and drop it at a distance from their homes. Forest streams would naturally catch some of it, and thus we find here a natural fish food. Some fish that rise to a fly are very fickle as to diet; but if you do not get a "bite" with larva bait, then rest assured that the fish are not present.

USE FOR ANOTHER PRODUCT OF THE HIVE.

Others may be on to it; but as I have never seen any mention of propolis as a substitute for leaf shellac I give my way of making a shellac that is very useful around a place, and cheaper than any paint; besides, it is dry in five minutes. Save all the propolis that is gummed about the frames and sections. Throw it into boiling water. When the water cools, skim off the wax on the surface, because any mixture of it would soften your shellac varnish. Boil the propolis in

fresh water to remove any honey, or it will be sticky. The propolis being found at the bottom, take it out. Make it into a ball or cake. In the winter time it will be brittle enough to mash into a powder. In the summer put it in a vessel containing cold water, and it can then be reduced to a powder, or granulated. In a gallon of wood alcohol put a handful or more, according to the consistency you need. The wax and sugar must be removed from the propolis. Other impurities will sink in your solution. As in the case with leaf shellac, put a little ground glass or coarse sand in the solution, and by shaking the bottle it will cut up the propolis and dissolve it quicker. Put on with a brush as many coats as you need. If you wish to make lacquer work on small things, especially metal, place the article, after shellacking thickly, in the stove oven, if it is not too hot, and it will give a fine luster. Propolis ground is a good counter-odor for a sick-room. Wrap it up into tapers with thin paper, or drop a few grains on a hot stove.

I color my shellac, when I need it, with any dry paint — yellow, blue, red, or white. All my rake and hoe handles are varnished red so as not to be lost in the grass. Hammer and hatchet handles are shellacked too. About half of my hives have a coat of it.

Washington, D. C.

A MODEL APIARY.

Honey Crop Materially Increased by Sowing Sweet Clover on Waste Lands.

BY JOHN BODENSCHATZ.

This apiary was started by me when fifteen years of age, with one colony, gradually increasing until I now have 250 in three apiaries. As will be noticed, I run for both extracted and comb honey. Having a large number of colonies from which to choose, those that cap whiter than others are run for comb honey, and those that do not cap as white are run for extracted.

Some years ago, when white clover failed to yield honey, bee-keeping was a total failure about this section. Finding that sweet clover blossoms right after white clover, and thinking that, if one failed, the other would certainly do something, I sowed several hundred pounds in vacant lots, along roads and quarry-holes where it thrived the best. I was highly repaid several years after, as my yield from sweet clover alone ran into the thousands of pounds, and it is holding its ground well, and spreading, crowding out all weeds.

The apiary shown in the illustration is situated nearly in the center of this village of 3500 population. The house shown is the honey-house. You will notice that there are two hives on the chimneys. These and others I use as decoys, and catch large numbers of swarms every year with them.

All our queens are clipped, as it is a much smoother way of hiving swarms, and you

can laugh at some that want to abscond, which happens once or twice with me.

Several years ago this apiary was reduced to about 20 colonies by foul brood; but I have it now in fine and healthy condition. I had only one colony that showed the disease this year, and that was promptly dealt with by removing all combs and honey, and letting them start anew. I find that this is the safest way to deal with them.

Our honey crop this year amounts to about 12,000 lbs., about half extracted and half comb.

We winter on the summer stands, using winter cases for protection, and find this the best of any method I have ever tried for this location.

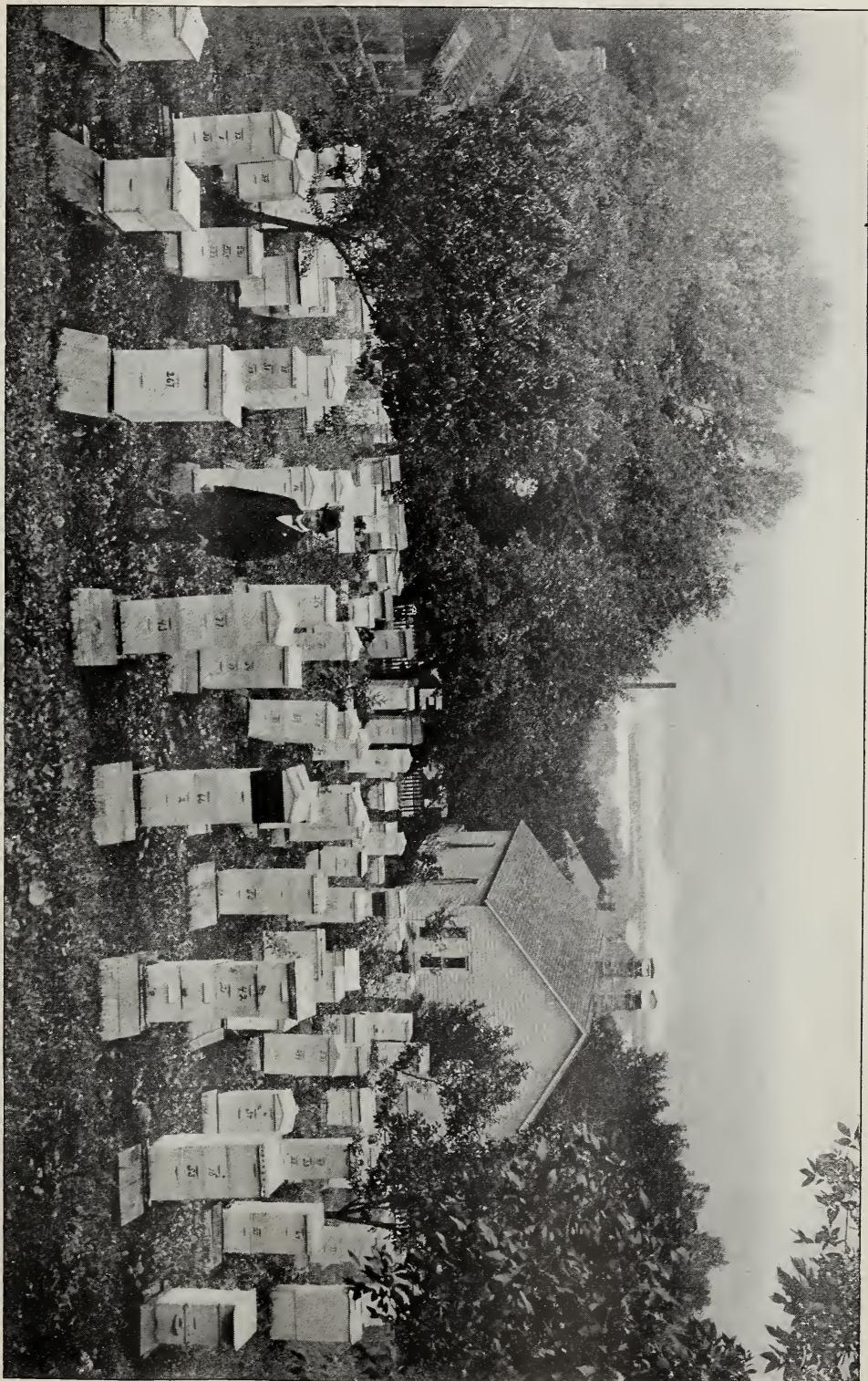
All bees are now handled by my brother, as I am engaged in the drug business; but it seems that I can't keep away from them, as they were the principal means for me to start a store of my own.

Lemont, Ill.

[Your bee-yard of stacked-up hives is suggestive of large yields of honey; and if these yields are due to the sowing of sweet clover in waste places, then we have right here practical evidence of the value of artificial pasturage. Where there is plenty of waste land, there certainly could be no objection to sowing sweet clover in any quantity. At all events, whether he sows any or not, the bee-keeper gets the credit of sowing sweet clover wherever it does grow. So long as sowing this clover in waste places does no harm, and so long as it is always a praiseworthy act to make two blades of grass grow where but one grew before, or rather, we may say, in this case, to make something grow that is useful in place of something that is valueless, there is no harm in the bee-keeper increasing his own salary by the method indicated.

As a general thing we may say artificial pasturage has been exploited again and again; but as a rule there has been nothing tangible or definite to show, for the reason that the acreage necessary to supply a colony of bees with honey-yielding flowers is vastly greater than the average person supposes—so great, indeed, that no one could afford to sow and cultivate and seed good land for the purpose. But when there are hundreds and perhaps thousands of acres of waste land, and the seed can be sown broadcast without cultivation, the situation is altered. GLEANINGS would like to have a show of hands from those who have been able to increase their annual crops of honey by scattering sweet clover in waste places, or, in fact, the seed of any honey-yielding plant on such waste lands. Dr. J. L. Gandy made great claims of what he was able to do; but investigation did not establish the claim that his yields of honey had been increased by the sowing of the seed of any honey-plant. As a matter of fact, the natural honey-flora in his locality was very abundant—sufficiently so to account for any flow of honey he may have had.—ED.]

A BEE-YARD WHERE THE ANNUAL YIELD HAS BEEN MATERIALLY INCREASED BY THE SOWING OF SWEET CLOVER IN WASTE PLACES.



A HOME-MADE CHAFF HIVE FOR 30 CTS.**Something that Anybody Can Make.****BY FRANK M'GLADE.**

I had no bee-cellars and no place to build one, and no money to do it with. I was losing my bees every winter, so necessity compelled me to do something or go out of the business. I accordingly cast about in my mind, and alighted on a plan which I put into execution, with the result that I have solved the wintering problem so far as I am concerned. Here is the plan:

and rest on the cleats. For the entrance I cut off a 3-inch piece of one end of the box, and turn it in at right angles, and nail. This piece thus nailed fits against the front end of the hive, just over the entrance. I take off the super and cover, and put on a piece of rag carpet, then pack the whole thing with clover chaff as full as it will hold.

For a cover I bought steel roofing, put up 100 feet in a roll. This I cut the proper length, snipped the corners, and folded the edge down.

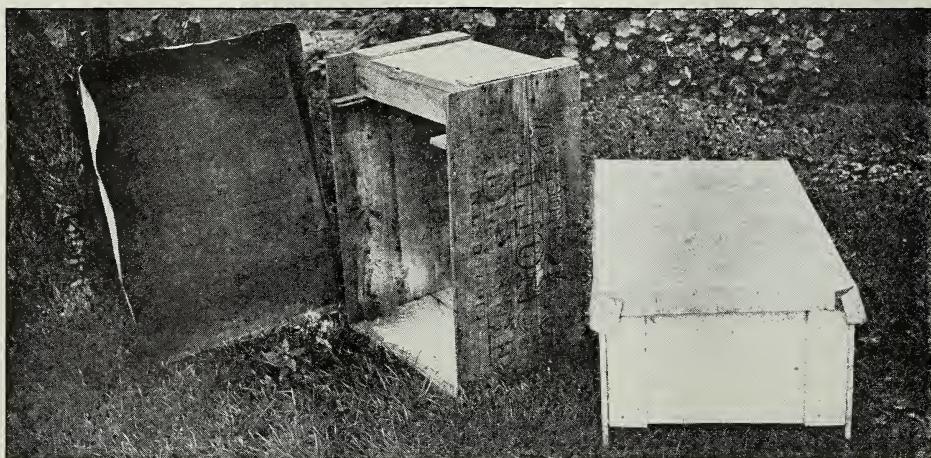
I looked into the paper roofing—Neponsett, red rope, and paroid; and, while they



FRANK M'GLADE'S HOME-MADE-CHAFF-HIVE APIARY.

"Lion" coffee-boxes, found at all groceries, are just the right size to go over a Dovetailed hive and leave a 3-inch space around and on top. Take off the top and bottom; place them together and nail two cleats across. This I use for a bottom-board to set the hive on. Cut enough off from the edge so that the box will slip down

are cheaper, I thought they would require a frame to make them durable, and the metal would last as long, and require less work to make, and are sure to stay on the hives. I painted the outside with white lead, but not the inside. I expected to have it to do on account of moisture; but I find there is no moisture. The clover chaff, and heat



A HOME-MADE CHAFF HIVE MADE OUT OF DRY-GOODS BOXES.

from the bees, take it all up. The cover shown in Fig. 2 has been in use three winters, and the surface is as smooth as it ever was. To those who have never used clover chaff this will seem strange; but a trial will prove what I say.

In Fig. 1 you will see two hives with supers on. These I left all summer with the chaff on, but no cover, with the result that they never offered to swarm, and gathered more honey than any in the yard.

It has rained every day this summer; but the chaff in those hives is dry, and I shall use it again this year. Take the super off; fill up with chaff; put a cover on, and let it go at that.

I have not lost a colony in three years. They will winter on half the stores, and, no matter how cold it gets, nor how deep the

women can work with as much ease and convenience as men if they haven't too much false modesty. Of course, the men do not know what a task it is to do outdoor work in skirts. If you wish to know, just try it and see the difference. You are just as liable to be the center of attraction until the strangeness wears away. The hands in the field will stop to look at you and smile, which will likely make you angry, as you are all tangled up in your skirts, and bees stinging you, and no pockets to put your tools in. Then you try to arise from the position you are in, and are compelled to untangle yourself. Gentlemen, try the skirts once, and see if you do not think my plan is all right. But you know we Western women are quite independent. We can vote, break bronchos, round up cattle, and climb mountains; but you Easterners must not class us with the Indians, for we are quite at home in the parlor with our Southern sisters, although we do not use tobacco.

Fort Collins, Col.

[The bee-dress for Miss Goodale is sensible, convenient, and not unbecoming. It is really a travesty on modern intelligence and the progress of the age in most things that custom and society demand that woman must be handicapped in the awful way that she is in the matter of dress. Bee-work, especially, demands for woman the same degree of convenience that it does for man, and we must admire the courage that prompts Miss Goodale to cater to convenience rather than to



A SUITABLE AND CONVENIENT BEE-DRESS FOR WOMEN.

snow, my conscience is easy, for I know they are warm. Winter before last they were shut up 85 days, and came out as clean as a new pin.

In the spring, when you cellar men are sitting up nights trying to solve the problem of just when is the time to set out the bees, I am easy, for my bees know when to come out, and will not come out too soon.

The boxes cost 10 cts. each, and the covers 20 cts., or 30 cts. per hive.

Pataskala, O.

BEE-DRESS FOR WOMEN.

BY MISS D. GOODALE.

Mr. Root:—I send you a photo of my apiary and its attendant. This is not intended to compete for a prize, but to show that

social custom.—ED.]

HOW A LITTLE GIRL HANDLED BEES.

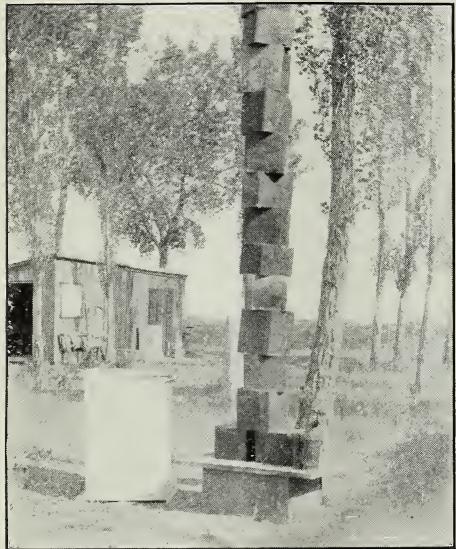
The Results of One Season's Work with a Wax-press.

BY SOJOURNER.

This miss of only seven summers had come all the way from her coast-country California home to visit her father at his apiary in the Sagebrush State, and to see the bees she had heard of but never seen, much less handled. She expressed herself as wishing that she could handle bees that way. "You can, daughter," he said. "I will let you do so."

"But they will sting me," she exclaimed.

"No, they will not if you do as I tell you. Put on my veil, and wait till I get the ko-



A PILE OF WAX CAKES FROM A GERMAN WAX-
PRESS PURCHASED LAST SEASON.

dak and I will send your picture to GLEANINGS."

"All right," she said.

Mind you, she had never been in an apiary

before, yet she had been stung when picking fruit, so she knew full well all about their "hot tails." She had confidence in her father, and simply did exactly as she was told to do.

In a few minutes she saw the bulb pressed, but still held the frame of live bees, many of them on her hands, till it was taken from her grasp.

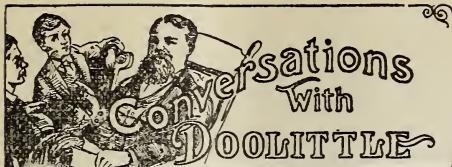
The Root wax-press you sent me last season has paid for itself already. To emphasize the fact, I send a photograph of what it rendered from old black combs similar to those which for years I have burned up. I asked the boys to pile up our wax cakes so I could photo them. They did as I ordered, and soon had them up so high my kodak would not reach the top. When remonstrated with for extending them into the air they simply said, "You wanted it piled *up*, so we did not pile it *down*."

Lovelock, Nevada.

[Please extend to the little lady who so bravely did as she was told by her father, the congratulations of GLEANINGS, and, I may say, all of its readers. And that reminds me that almost any one can handle a frame of bees, pick them up by the handful out of a cluster, and pat them on the back, *providing* he (or she) will follow directions. We demonstrated that with the 150 school-teachers who visited us, and whose pictures appear in our September 1st issue, p. 914.—ED.]



HOW A LITTLE GIRL HANDLED BEES.



HOW MANY BEES A COLONY SHOULD CONTAIN TO WINTER WELL.

"Good morning, Mr. Doolittle."

"Good morning, Mr. Smith. This is a nice morning after the frost last night."

"Yes, indeed. And its getting cold is what brought me over to see you."

"How is that?"

"It is like this: Three of my neighbors have some late swarms of bees that they are intending to brimstone for their honey soon, as they think that these colonies are too light in bees and stores for wintering; and as they do not wish to feed for the sake of keeping more colonies, they intend to kill them."

"That is the way farmer bee-keepers used to do when I was a boy; in fact, the bee-keepers of those days quite generally killed their heaviest and lightest colonies in that way every fall for nearly all the surplus honey they had. But excuse me for interrupting you. What has the killing of these bees to do with your coming to see me?"

"I have been thinking that these men would let me have the bees without killing, if I would take the bees from their honey, giving them the honey and I taking the bees."

"Quite likely. But what would you do with the bees?"

"I have over 100 combs full of honey that I have taken this summer, with the thought that I might need them this fall to give to different colonies as stores for the winter; but the good yield I obtained from buckwheat has filled the hives so that the bees have all they need, and I thought I could get these bees and put them on these combs of honey, and thus winter them, as I do not have as many colonies as I wish I had."

"That would be a good scheme, and one I have tried very many times with success."

"That gives me courage. But the point I wish to know most about is, how many bees should I put in a hive with these combs, as I do not suppose that many, if any, of these doomed colonies have sufficient bees for wintering separately? About how many bees should I use for each hive of combs containing from 25 to 30 pounds of honey?"

"It is calculated, I believe, that there are about 5000 bees in a pound, where they are taken from the frames without filling themselves with honey more than they naturally are when not disturbed. Then it is calculated that 20,000 bees make a good strong colony three weeks before swarming. But at swarming time there may be double this number, or more, so that, where we work for comb honey on the non-swarming plan, we

usually calculate on from 40,000 to 60,000 bees as making a good colony for working in sections to the best advantage. But my opinion is that more colonies go into winter quarters, which are called strong, with from 12,000 to 15,000 bees than there are that contain a larger number."

"Then you think that 15,000 bees would be sufficient to put into each hive I could have filled with combs of honey?"

"That would be my opinion."

"And I can find out about this matter by weighing the bees I drive out for these neighbors, and so stock each hive with about three pounds of bees and a queen?"

"Yes; but you will have to drive the bees in order that you may have the bees and the owners the honey, will you not?"

"That is my expectation."

"By thus doing you will cause the bees to fill themselves with honey, so that one pound of bees filled with honey will weigh more than a pound of bees shaken from the combs would, as a rule."

"That is so; and it is something I had not thought about. How am I to get at this matter?"

"From several careful calculations I am satisfied that, if 5000 bees shaken from the combs, without any special disturbance of the colony, will weigh one pound, they will weigh fully two pounds when driven out as you propose, so that I should calculate I wanted from 5 to 7 pounds of these driven bees to each hive of combs containing 25 to 30 pounds of stores."

"I guess that is about right. At least I will try that weight. But how would you get at this matter — put the bees all in one great batch, and then dip out six pounds for each hive?"

"That would hardly do, for you would get the larger part of the queens killed, or three or four in one hive, while others would have no queen."

"That is so. I was a fool or I would have thought of that. Tell me just what you would do."

"I would take my scales along; and as each colony was driven into a box I would weigh them separately. Then each and every swarm that weighed 5 pounds or more I would hive separately in one of the hives having from 25 to 30 pounds of stores. In this way you will place each colony in about the same condition for wintering that it would have been in had it been left in its own hive — only you insure it sufficient stores for success along this line."

"That I can see readily. But how about the weaker ones, or those having less than 5 pounds of driven bees?"

"These I would unite in this way: Say you have the bees from one of these weak colonies which weigh 3 pounds, and those from another weigh 4 pounds. I would dump the two together, shaking them up well before running them into a hive; and if I had one weighing 2 pounds and another 4 or 5 pounds, these I would dump together in the same way. In short, take two, three,

or four, as the case may be, those which will make the nearest to 6 or 7 pounds, and put them together, shaking them up so as to confuse them so they will not fight, and so they will mark their location better; then hive them on your combs the same as you would a swarm in summer."

"And you think the experiment will be successful if I use that number of bees to the hive, and do the work as we have talked?"

"All of my experience during the past says you will. In fact, in every case where I have gotten bees in this way they have come out good and strong the next spring, generally better than my other colonies, and done finely the next season. If I were starting in bees I would run them for combs of honey, for this purpose, for the first year or two, were I sure I could get for the driving all the bees needed to stock them."

"How lately have you tried this?"

"Only last fall, I heard of a man four miles away who found a runaway swarm, and hived it in a cracker-box. The person telling me said he was going to kill them soon, so I went up and saw him, asking if I would come and get the bees, giving him the honey if I might have the bees. He was only too glad to have me do this, as it relieved him of the disagreeable job of killing the bees, which job he knew nothing how to do. The bees from this cracker-box weighed five pounds two ounces; but they came out fully as strong last spring as any colony I had at the out-apriary, where I took them when hiving."



PROPOLIS ON COMB HONEY; THE AVERAGE MAN'S OPINION OF HONEY.

Is there any way to keep bees from putting so much propolis all over my honey and sections as to throw all of it into No. 2? This is a fairly good season here, but, oh the bee-glue! I sometimes gather a large handful from one super, or more than I would get in a whole season in Eaton, Ind., my former home. I am compelled to sell my best at 15 cts. in the home market. People here think all this white honey is machine-made, and very little of it is used. Just to show you how little they know I will relate a little experience. A few days ago I was with a real-estate agent looking at some property. We passed a bush of some kind on which the bees were working very busily. I said, "Look at the bees!" I told him I kept bees at home. He said, "Take a handful of the flowers home and feed them to your bees." Another man asked if the hon-

ey was ready to eat, or did it have to be cooked or fixed up some way? Now, both of these were old men. Is it any wonder people believe the comb-honey canards?

Richmond, Ind. JOHN ESHENFELDER.

[Evidently, in your locality more propolis is gathered by the bees than in most places. I have no remedy to suggest unless you use the wide frame that protects the top as well as the sides and bottoms of the sections. Even with the section-holder appliance you can overcome the propolizing of the top to a great extent by using a sheet of paraffine paper laid directly on top of the sections. The bees will gnaw it somewhat at times, but you will secure a little cleaner sections.—ED.]

HOW TO MANAGE LATE SWARMS THAT KEEP RETURNING TO THE OLD HIVE.

I'm a beginner in bee-keeping, and have watched GLEANINGS very closely for an answer to some difficulty which has come up in my attempts, but have failed to see any thing published so far, so I thought I'd write you in regard to it.

I started in the spring with three hives; and as the weather would not allow them to swarm early I had only one or two swarms in June, the most of them swarming in July and August. I had much trouble hiving my swarms, as they would return to the old hive within a few hours after capturing, and would do this three and four times before they would settle in the new hive. They would also build the honey all together, which makes it difficult to get at it. Some of the boxes have very little in, and others not touched. The bees don't seem to be working very much now, only flying around buildings and going into all the cracks and holes they can find on the building, as if looking for a new home.

Will those swarms which came in August amount to any thing? and what can I give them if they haven't honey enough to last them through the winter? I have now fifteen colonies.

RODULPH ZEIGHE.
Corona, S. D., Aug. 24.

[From what you write, it is evident you have been having after-swarms, and it seems to me those bees *did exactly what they should have done*—go back to the old parent colony where they belonged. Your little swarms were possibly so weak that, when you hived them in a large hive, they saw the utter futility of trying to build up a large cluster, and concluded it was better to go back to the old home. Second and third swarms by themselves are not worth much. To avoid them cut out all queen-cells of the old colony, or keep it down to one virgin or laying queen. Second swarms that come out in August will be all right for winter if they are stimulated by feeding so they can continue brood-rearing till September. But it usually takes an expert to take such late swarms and get very much out of them.—ED.]

THE GIANT BEE.

It fills my heart with joy to hear that Mr. Benton is on his way to India for the purpose of getting giant bees. If the giant bee is as good in other ways as our Italian bees are, and if they are large enough to get all the nectar out of red clover, they will be worth millions of dollars to both bee-keepers and farmers. Just think of it! What would a queen be worth to me if her bees could get all the nectar out of red clover? I believe that there is close on to 600 acres of red clover in reach of my bees, and I am getting some of the nectar from it, but not all; and I am satisfied that my bees will work red clover as closely as any bees in the country; and while Mr. Benton is gone after larger bees let every bee-keeper try his best to improve his own stock.

Velpen, Ind., Aug. 1. W. T. DAVISON.

[I doubt if the tongues of even the giant bees would be long enough to *reach to the bottom* of some of the corolla-tubes of red clover. The tongues so far measured are only slightly longer than those of some Italians; but we shall be glad to have these new bees introduced into this country.—ED.]

WHAT TO DO WHEN BEES PERSIST IN BALLING A QUEEN.

What would you advise me to do in the following cases? July 14th I tried to introduce a queen to a colony of bees. I followed the directions on the cage, and on opening the hive on the fifth day I found the queen balled. I picked her up and smoked the bees off, then I put some tobacco in my smoker and smoked the whole colony and queen, and let them go for about twenty minutes; then I looked again and found her balled again; then I picked her up and went to another hive and took out two frames of hatching brood, brushed off the bees, and put the queen and brood into an empty hive with a wire screen on the bottom, and put it on top of the queenless colony. I let it stay on for three days, then I put it into the hive with the young bees clustering around her, and in half an hour, on passing the hive, I noticed through the entrance that the queen was balled again. I took her out, put her into a cage with some young bees, and put her on top of the frames with the cardboard over the hole in the cage. After six days I found my queen lying on the outside, very nearly dead, and that was the last of her, as I killed her then. That the hive is queenless I am sure, for there is not a bit of brood in the hive; and, furthermore, I let the bees all run through an Alley trap into a new hive. Can you tell me what the trouble is?

Here is another question: Should this season's queen reared in May stop laying on or about the 15th of July if she is of any use? I have a colony that I made up this spring, and the queen is not laying.

CHAS. A. STAPF.

Albany, N. Y., Aug. 1, 1905.

[It is a little difficult to explain exactly why the bees balled this queen. Ordinarily I would assume that the bees had in the hive something that they recognized as a queen — probably a laying worker. But I have noticed this: When a colony commences balling it is likely to keep it up; and the only thing to do is to satisfy its whim by giving it a ripe queen-cell and let it rear its own queen. And, again, a queen that has been balled a number of times by one colony is quite liable to be balled by another. She possibly acquires an odor of angry bees, and becomes from that time on a *persona non grata* to all bees. Again, it is possible that the queen you attempted to introduce was an old virgin. This might account for the excessive balling described.

The time when a queen will stop laying for the fall will vary a good deal, according to the conditions and locality. After a honey-flow queens will ease up on laying, and sometimes stop altogether. Ordinarily we do not expect egg-laying to stop much before the first or middle of September in most of the Northern States.—ED.]

DOUBLE-GROOVE-AND-WEDGE PLAN OF FASTENING FOUNDATION CONDEMNED.

I have been putting in foundation for a neighbor, in Hoffman frames. While working with your frames made with molding on the under side of the top-bar I got mad. But when I worked with a lot with two grooves and a three-cornered wedge to drive in, I got madder. The grooves are never made deep enough to hold the foundation, the wedge will not stay in, and half the foundation will slip out unless waxed in, and that is too much work for me. I do not think any one can maintain a Christian character long and use the double-groove-and-wedge frame. Try the wood frames and be happy. Make the top-bar exactly like the old-style window sash, with a strip to tack in for putty. Lay in your foundation as you would glass in a sash; push the strip up *tight* against the foundation, and tack in firm, and it is done, and the foundation can not be pulled out. There is no patent on my frame. Try it once and you will not want any other.

Santa Barbara, Cal. DELOS WOOD.

[On carefully reading what you have to say, I am firmly convinced that you did not read the directions that go with the frame; or if you did read them you failed to carry out the instructions. If the frames were made by The A. I. Root Co., you should have received instructions that you are not only to put the wedge in the groove, but that you were to *drive it below the surface of the wood*. I quote from the directions as follows: "But in order to make the wedge stay in place it must be driven below the surface of the wood, as at 3; otherwise it will crowd out." Of all the methods of putting in foundation, this seems to give the most satisfaction. The plan you describe may be a good one. It was originally introduced by E. Kretchmer. The idea of a dou-

ble groove and a wedge came from England; and so many of our customers urged its adoption that we finally put it out on the market as regular, and the other manufacturers have generally followed suit. No, we have had more letters expressing satisfaction with the use of the double groove and wedge than we have had with any other method of fastening foundation.—ED.]

DOVETAILED HIVES; THEIR DURABILITY; A CASE IN POINT.

It is true, when timbers are exposed to the weather across each other they are much more liable to decay, page 953. But in my opinion the Dovetailed hive lasts the longest. I will tell you what makes me think so. About twelve years ago my father bought two hives—one Dovetailed and one lap-cornered. Then he selected some good lumber and made another lap-cornered hive. Four years ago I started to take care of the bees; then the lap-cornered hives were starting to fall apart, but the Dovetailed was solid. I nailed the lap-cornered hives and painted the three; but the two wouldn't stay together, for they were decayed; but the Dovetailed is as solid as a new one yet, without any extra nailing.

You have read that, when timbers cross each other, each is more liable to decay. I think so. But if a hive is solid, and painted, the paint will fill the cracks and stay there; but if the hive is a little wiggly the paint will crack in the corners, and the water get a chance to soak in, and so the wood decays. I think the more solid the hive the better. I've got A. I. Root's Dovetailed hives now, and they satisfy me.

Manson, Iowa. H. F. STECKELBERG.

[Your experience is quite in line with that of others who have made similar comparative tests. For that reason I believe that the dovetailed (or, more properly speaking, lock corner) feature has come to stay in hive construction. As it has been adopted by nearly all manufacturers of bee keepers' supplies in the United States, this fact alone indicates pretty well its popularity as well as its durability.—ED.]

UNITING TWO OR MORE SWARMS.

I wish you would give the best method of uniting two or more swarms—I mean swarms that come out a week apart, or those that are weak from any cause. I want to get on to some good method whereby I can unite them any time I wish, either spring or fall.

J. I. EARL.

Bunkerville, Nev.

[There is no particular difficulty in uniting colonies of gentle bees. As a rule the two lots can be put together without any trouble. But cross bees, or extra-yellow bloods, or hybrids, will sometimes fight like hornets when united. Usually all fighting will cease if the bees are smoked. But we have had cases where extra-yellow bees, Cyprians, and Syr-

ians, in spite of smoke, practically annihilated each other.

In uniting, of course many of the old bees (if of the same yard) will return to the old stand. These should be carried back again, and shaken in front of the entrance. If this be repeated once or twice there will be but very little going back afterward. Bees that have just been moved from an outyard to the home yard, and before they have had an opportunity to fly, can be very easily united, and the two clusters will stay together. Ordinarily if there are weak colonies at an outyard, and there are likewise weak ones in the home yard, the two lots can be united; but the out bees should, of course, be put on the stand of the home bees. If they be smoked a little at the time of putting them in, there will ordinarily be no trouble whatever.—ED.]

YOUNG BROOD ATTACHED FIRMLY TO THE BOTTOM OF THE CELL.

I have two colonies of bees with an affection of which I see no mention in any book on bee culture. Both have plentiful stores; yet just before the young bees should hatch, the bees drag them from the hive. On examination the young bees are found to be adherent to the bottom of the cell. Some of them succeed in getting themselves free, bringing the cocoon with them firmly attached to the extremity of the abdomen. Others cut away the entire comb in trying to free themselves, leaving great holes in the combs. One of the colonies was infected from the other by giving them one frame of brood, though the condition has spread to all the combs in each hive. The bees drag out some, while still in the pupa stage.

THOS. J. BROWN, M. D.

Gallatin, Tenn.

[I am not able to explain just why the young brood was attached to the bottom of the cells. I have seen cases of this kind, but I always supposed it was due to the fact that the brood had been chilled or overheated; but the case you describe seems to be more than this. Constitutionally the queen may be weak, resulting in deformed bees. Perhaps some subscriber can enlighten our friend.—ED.]

THE DUAL PLAN OF INTRODUCING QUEENS.

I have been interested in the dual plan of introducing queens. When I desire to supersede a queen in a full colony, can I put a caged virgin into the hive four or five days before taking out the old laying queen, releasing her at that time, and have her accepted, or can this be done with nuclei only?

FREDERICH H. HARVEY.
Battle Creek, Mich.

[Yes, you can carry out the dual plan of introducing queens with full colonies, the same as with nuclei. Ordinarily you can introduce a virgin in just the way you describe; but the old queen should, of course, be removed entirely before the young one is released.—ED.]

"GOLD DUST" FOR REMOVING PROPOLIS.

I notice an item in last issue of GLEANINGS about removing propolis from the hands. Did you ever try gold dust? I have used this for years, and never saw any thing better. Soap the hands first, then add a teaspoonful or less of the gold dust, and watch it cut up the propolis.

Effingham, Ill. G. W. DYKE.

[I have never tried gold dust, but shall be glad to do so at the next opportunity. So far I have found nothing that will remove the real sticky propolis that we find in the fall, promptly and easily—not even gasoline or sapolio, as recommended by the next writer. Either one will take it off providing you scrape long enough.—ED.]

SAPOLIO FOR PROPOLIS.

I see on page 760 where you used benzine and lava soap for removing propolis. Why don't you give my remedy a trial? It is sapolio. It never fails with me, and I have the worst bee-glue I have ever seen anywhere.

London, Ohio.

[See answer above, to Mr. Dyke.—ED.]

PROPOLIS REMOVED BY SAPOLIO.

Your experience with propolis and lava soap, p. 760, leads me to question whether you have ever tried "hand sapolio," a soap now largely advertised for toilet use. Having been out of touch for several years with bee-keeping (during absence from home) I do not know whether the above-mentioned cleanser has ever been recommended in this connection. There is nothing "in this locality" that I know of that will free the hands from propolis and smoker stain as well as hand sapolio and a good fiber nail-brush (I find fiber better than bristles), especially if a little ordinary laundry bar is used in conjunction with it. If you haven't already tried it I think you will find in it the thing for which you are looking.

I may add that I have no interest whatever in the sale of this article, save that its value as a propolis remover appeals to me as a commercial man who must avoid even the appearance of being lax in matters such as cleanliness of hands, etc. Perhaps this has been suggested before: if not, I am sure its use will be found a great help to the bee-keeper who wants his fingers freed from the sticky traces of the day's work.

R. B. ROSS, JR.

Montreal, Canada, Sept. 8.

QUEENS RAISED FROM BROOD BROUGHT FROM ANOTHER APIARY.

It may interest you and your readers to know that I have taken brood from a neighboring apiary (that of Mr. H. H. Jepson, of Medford, about five miles away) and raised queens in my own yard from it. I repeated this again this season so far as fetching the brood is concerned, and expect to raise

queens again. I carried the strip, which was about 3×6 , in a piece of wrapping-paper as an ordinary package.

JAMES M. PULLEY.

Melrose, Mass., Aug. 7.

[Some years ago we used to do quite a business in sending little patches of brood by mail to customers. Where larvæ were lavishly supplied with food the recipient could put it into prepared queen-cells and get young queens from a selected breeder a hundred miles away. But such brood can not go much over ten or twelve hours without starving. It is perfectly feasible to carry young larvæ from one yard to another for grafting purposes, but it must not get chilled.—ED.]

VENTILATOR IN A BEE-CELLAR.

I expect to partition off a place in the cellar 11×12 ft. for a bee-room. I shall lath and plaster against the cellar wall. There will be one window which I shall close up. The room is 8 ft. high. The cellar is dry.

1. What ventilators, and where would you put them in?

2. Would it be necessary to plaster overhead to keep out the noise from above?

3. How many colonies should be put in a space of this size?

Jefferson, N. Y. CHAS. M. HARRIS.

1. I would have no ventilators connecting directly with the air outdoors. A door opening into the other cellar—that other cellar having direct connection with outdoors—will give all the ventilation required, ordinarily.

2. The plaster will be unnecessary. Noise overhead does not particularly bother the bees.

3. This is a hard question to answer, as every thing depends on how well you can control the temperature. If you can keep it in the range of 40 to 48 you might be able to squeeze in 150 colonies. Ordinarily 75 to 100 would be enough.—ED.]

SECURED ONE CENT ABOVE THE MARKET ON PLAIN SECTIONS OVER THE BEEWAY SECTIONS.

I sold some honey to-day to the local trade in 4×5 plain sections, and got one cent above market price without asking it. I will never retrograde to the $4\frac{1}{2} \times 4\frac{1}{2}$ beeway sections.

Denison, Iowa. GEO. W. STEPHENS.

Do you think my queens will mate this year which I raise from now on? Drones are not very plentiful, and we have much cool cloudy weather already.

Milroy, Pa., Sept. 15. A. H. KANAGY.

[After about the middle of September there is a good deal of risk in getting queens mated, as drones are liable to be quite scarce at that season of the year. Unless you had previously arranged to have a lot of them reared beforehand, many of the late-reared queens would prove to be worthless.—ED.]

FEEDING BEES CORN BREAD AND SUGAR SYRUP.

Three years ago, and again this year, a farmer fed his bees by baking cakes of corn bread, splitting it, saturating it with granulated-sugar syrup, and setting it out 50 yards from the apiary of 12 colonies. They took it up, bread and all. It seems to be a success. What do you think of it?

Elk City, Kan. DR. J. T. BLANK.

[At certain seasons of the year when natural pollen is not available, bees will take meal in almost any form as a substitute for pollen; but if the bees require feeding at all, better not give them meal. Give them just the clear syrup. The ordinary pollen that nature supplies comes on soon enough to take care of brood-rearing as early as is advisable for the bees to breed.—ED.]

BROOD IN SECTIONS.

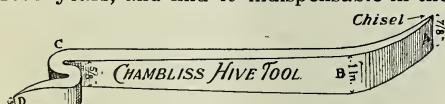
I went to take a super off one of my stands, and found that the bees had built brood-combs, and had plenty of young bees in the honey-boxes. Can you tell me the cause? There was not much honey in the super. Can you tell us why there was not much honey, and why they raised young bees in the super? Our hives have eight frames in the lower part. C. H. LANE.

Jobs, O., July 17.

[Ordinarily there will not be brood in sections unless the brood-nest apartment has no empty cells in which the queen can lay. It is a very difficult matter to get queens to lay in sections, even when you try to force them into them. If there were plenty of egg-laying room in the brood-nest, and the queen laid upstairs, I should be inclined to credit it to a freak of that particular queen.—ED.]

ANOTHER HIVE-TOOL.

I send a sketch of a tool I use in my apiary. A is a chisel for cleaning frames, $\frac{1}{8}$ in. wide; width at B, one inch, tapering to $\frac{1}{8}$ at heel marked C, while it is $\frac{1}{8}$ at point of pry, marked D. I have used this tool for four years, and find it indispensable in the



apiary for prying, scraping off bits of combs and propolis, and also for light nailing, such as one finds sometimes to do. I had it made to order, of slab steel. The sketch shows it edgewise. W. F. CHAMBLISS.

Enloe, Texas.

SULPHUR CURES PARALYSIS BUT INJURES BROOD.

In regard to an article in the July 15th issue, stating that sulphur sprinkled on the combs will cure bee paralysis, I will say I did that last year and cured the paralysis, but the sulphur killed the unsealed brood, and

the bees would not clean out the cells. This sulphur dust in the cells also killed the eggs as fast as the queen laid them. I had to change the combs to save the swarms. Only one colony had it this spring. I brushed the bees off the combs and sprinkled them with sulphur, and then returned the combs. The paralysis stopped.

C. STIMSON.

Hally, Col., Aug. 6, 1905.

[It is not recommended to sprinkle combs containing brood with powdered sulphur. If you will refer to the directions given by Mr. O. O. Poppleton, the author of this particular treatment, you will see that he distinctly states that all combs containing brood must be put into other hives; that there is no danger in doing this, because the disease is not carried through the brood.—ED.]

LOOKING FOR QUEEN-CELLS WITHOUT OPENING THE HIVE.

In your footnote to my article for July 15 you say that my plan contemplates the use of a double-chamber or two-story hive with a super on top.

This was not my intention at all, unless two shallow chambers were used as *one* hive when it would apply. The illustration which I sent with my article showed clearly that it was to be used in connection with a single-story hive, having one or more supers which were to be fastened while the hive was tipped back for examination.

Not one hive in a hundred will have the usual number of cells preparatory to swarming, so that some can not be seen while the hive is tipped back, and the bees smoked up in the combs:

F. H. CYRENIUS.

Oswego, N. Y., July 19.

[Fr. Greiner gave corroborative testimony to the same effect, p. 965, Sept. 15th issue. I stand corrected.—ED.]

IS THE COLONY QUEENLESS?

I see in the last journal that a queenless colony will not carry in pollen. I have two colonies that are strong, and that carry in pollen; but they have no brood. Have they a queen that is not yet fertile? Will a queenless colony having a fertile worker or two accept a queen without balling?

Woodland, Cal. A. B. GRIGGS.

[You are liable not to find brood in a colony after the main honey-flow is over. Your bees may have been carrying in pollen, and still the queen be in the hive just the same.—ED.]

HIVES WRAPPED IN PAPER FOR WINTER.

In my article, page 913, I should have said the hives wrapped in paper (to all appearances) wintered better than those wrapped in oilcloth. They also had the advantage of dry-goods boxes turned over them to protect the paper and also for the purpose of a windbreak. M. A. HUDSON.

Greensburg, Ind.

BICYCLES; BEVEL GEAR RATHER THAN CHAIN WHEELS.

Friend Root:—Just a line to say I'm somewhat surprised at your answer to Mr. Cary's inquiry regarding a bicycle. I have used a chainless for years, and would not even think of going back to the old vexing chain wheel. The chain is a tremendous annoyance, and considerable danger—always an exceedingly dirty, stretchy, and troublesome affair. The chainless feature, so far as I know or have heard of (except you), is *perfection*. Chainless wheels are *very* plentiful around here. Two of my nieces have them, and are delighted with them. Never, before reading your answer, had I heard of the bevel gears getting "out of alignment," but are always exactly so—require no care, never fail or wear out, and require lubricating but once or twice a year. Every one I know using the chainless is loud in its praise, and I have never known one using it to go back to a chain wheel. My nieces have Cleveland and Tribune wheels. My first chainless was the Crescent. My present one is a Tribune. Of course, all have coaster brakes—an exceedingly valuable feature. I have a hand brake also—extra safety is a hobby of mine. I have also a spring frame in my wheel, and it is a very desirable feature. No one can have any idea how much more comfortable a spring frame is till he has used one. I am 58 years young, and have used many wheels with much enjoyment and profit. I feel very sorry for those who have none.

A. T. COOK.

Hyde Park, N. Y., Sept. 21.

[In connection with our machine-shop we had for years a bicycle-repair department; and if you could see some of the bevel-gear machines that have been brought to us for repairs, and some of the same type that have been thrown out on the scrap-heap that were otherwise good except the driving mechanism, I think you would agree with me in recommending chain wheels for the *average* rider. We have some now on hand that we will sell dirt cheap. You and your family are probably careful riders. I rode one bevel-gear model some three years without a particle of trouble, and I could do it again. For my own individual riding I would prefer this type of machine; but, mind you, when I sold my chainless to another party it was not two months before he had the thing all out of alignment. We repaired it repeatedly, but it did little good. I gave another chainless to my boy; but in three months' time it went to the bad—not because he abused it, but because other boys would ride it occasionally. The *chain* wheels, for the *average* rider, stand the hard knocks. While the chains themselves stretch, and sprockets wear some, these parts can be renewed at a very small cost.—ED.]

BEES IN A CHURCH.

The Methodist church at Clarksville, Texas, is a handsome pressed-brick edifice with

two main entrances. One entrance is on the south side, and is of the Gothic style. On the right-hand side of the door there is a crack in the facing, about one-fourth inch wide. A swarm of bees found this place, and took possession for a home. They have been there for two years, and have been known to sting but two persons, and they were teasing them. In April they swarmed three times in two weeks. Two of the swarms were hived successfully.

Clarksville, Tex. WOODLAND FINNEY.

WHEN THE BEES CAP OVER EMPTY CELLS.

In reply to the article of Fred Wulf, page 777, I would say I have had the same experience many times during the extracting season, and it *usually* occurs about the close of the flow, or sometimes *during* the flow, when there is a cessation for a day or two caused by a bad storm. Just why they do this is uncertain, unless because of the cessation, or from force of habit; it usually occurs within 24 or 48 hours after returning the combs to the hive after extracting, and sometimes in 12 hours, but never when the flow is normal.

ELIAS FOX.

Hillsboro, Wis., July 21.

SWARMS GOING OUT WITH VIRGINS.

Referring to Doolittle's conversation, July 15, I will say that I have had several cases of swarms coming out with virgin queens when out to mate. Where a strong colony loses the queen during the swarming season, and starts queen-cells, and the same are all removed but one cell, the bees are almost sure to swarm when the young queen goes out on her wedding-flight; but with me these swarms always go back to the old hive, even after being hived on a new location.

New Milford, Pa. F. W. DEAN.

WHY THE BEES SWARMED.

Referring to the report by Don Mills, page 727, I would say that I have tried Mr. M.'s method, and found it so far satisfactory. The trouble above, to my mind, is that Mr. Mills' colony was prepared, or about so, to swarm when he operated on them, and they followed out their inclination. If he had taken out all cells, and had his queen clipped, or put on a queen-trap and left his hive on top for nine or eleven days, then taken it off with just enough bees left in it to care for the brood, or left it stronger, as he thought best, giving them a queen, or let them hatch on, I think he would have found it all right.

WM. FILMAR.

Loyal, Wis., July 11.

SMOKER FUEL.

I find old shingles make the very best smoke wood. They readily take fire. When well smoking, fill up with the ones not so rotten as the ones you start the fire with. They last as long as most smoker fuel.

Roseville, Ill. MRS. L. C. AXTELL.

A RAILWAY APIARY.

In the ranks of bee-keepers there are many who find it difficult to handle and carry a super weighing 40 or 50 lbs. I found it hard work when wearing an artificial limb. As I am compelled to use crutches it is almost impossible for me to carry even empty hives. As I was driving across the railroad track one day, where sweet clover was growing very profusely on both sides of the track, it struck me that, if I had such a track, and on it a push-car (such as section men have for moving ties, rails, etc.), I would string out my hives on both sides of the track so that I could manipulate them sitting on the car. I could carry, on the car, hives, supers, tools, and every thing I should need. When taking off honey I could run the loaded car right into the honey-house (built over one end of the track), entering a wide door which should open like a window hung on weights. I could have a canopy top for shade. In robbing times the sides might be screened, and a bee-tent be let down like an awning. The track may be built of 2×4's for rails, and the car can be made by almost any mechanic. Track and car should, however, be well made so as to run easily.

J. F. EGGER.

Crichton, Ala.

If you will turn back to the first or second volume of this journal, for 1873 or '4, you will see that A. I. Root once had what he called a railway bee-yard, the rails consisting of 2×4's spiked on cross-sticks, the entire track reaching from the honey-house to the roadway. The plan was all right except for the expense. Then, besides, in the back yard of an ordinary village property it would be impracticable to make a long apiary, simply for a lack of room. In your case it would be just the thing.—ED.]

AN EASY WAY TO PUT PAPERS IN THE SHIPPING-CASES.

I will give my way of putting paper into the shipping-cases, as others may be bothered to get them in as I was. I lay the paper on a board or other flat surface, and fold over one side and one end the width I want it to turn up, and then place that side and end into the case, first holding it against the side and end of the case, and smooth the paper out with the other hand, and the work is done.

J. RIDLEY.

Monticello, Minn.

THE ALEXANDER PLAN A SUCCESS.

I note the reports of the Alexander method are rather discouraging. I am very well pleased with it. I started with 25 colonies; allowed one to swarm, and used this method on the rest. None of them swarmed. The old colonies were ready for supers sooner than natural swarms would have been, and the whole yard is in fine condition for buckwheat.

W. L. HINE.

Newfield, N. Y., July 31, 1905.

THE RANGE OF BEE-FLIGHT TO BASSWOOD;
DOUBLE-WALLED HIVES A GOOD INVESTMENT.

There are many basswoods within 3½ miles of my yard. Are they within my range? Is chaff packing or indoor wintering necessary in a mild climate like this?

ARTHUR McMICHAEAL.
Laurel Springs, N. J.

[The distance of 3½ miles from basswood would be somewhat beyond the range of ordinary bee-flight. Your better way would be to move a small outyard up to the basswoods the coming season.

The chaff packing for outdoor wintering would do no harm, and might be the means of saving a good many bees. We regard the double-walled hives as a good investment in our own climate, even in summer time, to protect the brood during cool nights. We certainly would not advise you to winter in the cellar or indoors in your climate.—ED.]

A REPORT ON THE PLAN OF WINTERING A PLURALITY OF QUEENS IN A HIVE OUT OF DOORS.

Seeing your request on page 871, for reports on W. M. Reiber's plan of saving queens, I here state that I have been using the plan for three years in plain Dovetailed hives, with the only difference that I use thin board partitions, filling, of course, bee-tight up to the cover and down to the bottom-board, with a block in the entrance to keep queens from going around the end of division-board. She will not come outside to go around into the other part. I have wintered those weak stocks that had queens in one hive and they did as well as any in the yard.

E. M. CALLAWAY.
Gravel Ridge, Ark., Aug. 23.

YOUNG BEES CARRIED OUT; WHAT DOES IT MEAN?

My bees are carrying out the young bees while in the larval form. What is the cause? Will you give a short description of pickled and black brood? also bee paralysis?

Milano, Texas. J. R. SMITH.

[Ordinarily we say that, when very young bees or larvae are carried out, it is the work of the moth-worm. But overheating or chilling of the brood may cause the same result.—ED.]

DRONE BROOD FOR FISH-BAIT; HOW TO PRESERVE IT.

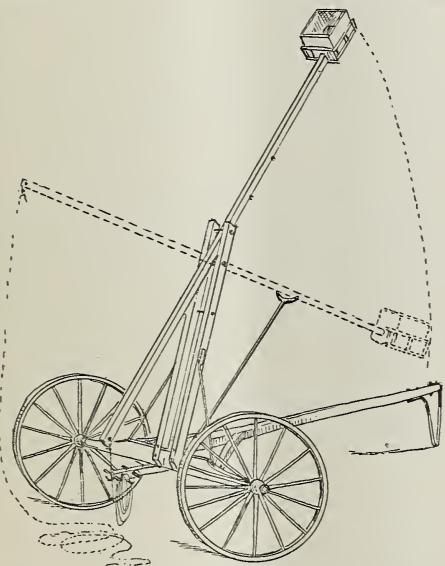
I believe the production of drone brood for fish-bait may become important in connection with the production of honey if some means can be discovered for preserving them for a considerable length of time so as to enable them to be placed on the market. Could they not be treated with some chemical, and sold in cartons as section honey is?

Atascosa, Tex. L. W. AVANT.

A SWARM-CATCHER ON WHEELS.

I am sending you an illustration and description of a device in the form of a derrick which I have mounted on the hind axle of a wagon. This I use for getting swarms of bees out of trees, and high and difficult places; and it works so well, and I am so highly pleased with it, that I wonder the idea was never thought of before. To make it, get two scantling, 2×4 , 16 feet long; saw one in two in the center. To make the upright pieces, bolt them to the hind axle about two inches apart, then at least one bolt at the top to hang the sweep in. Then procure a shallow box or framework, at the end of the sweep to hold the hive, and tie a small rope on the other end of the scantling.

When you get to the swarm, pull down on the rope until the hive is just under the



bees, then tie the rope to the end of the coupling or reach; then with a forked stick, or something of that kind, reach up and shake the bees off on top of the hive, then back off a foot or two, and they will soon all settle on the hive; then swing the cart around clear off the limbs and let them down with the rope.

I can get a swarm of bees with this rig, from a few feet high up to 18 feet, and the Manum swarm-catcher could be attached to the end of the sweep in order to get swarms at a still greater height.

If a swarm of bees should settle near the top of an evergreen, say twelve or fifteen feet high, or any kind of a tree and right around the stem where they would be well protected by small limbs, it is quite difficult to get them with a Manum swarm-catcher. With my way you can shove the hive close up to the tree just under the bees; then go up on the ladder on the opposite side; punch them off into the hive, or smoke them out if no other way. Then, again, if they were to

settle near the center of a large apple-tree where it is quite brushy this rig will be found very valuable. Then for ordinary work, where a swarm is settled out on the end of the limbs, it is so handy to run up with the cart and then fix the hive on the end of the sweep, then raise it up just under the bees and shake them off.

Robertson, Ia.

N. YOUNG.

[Your machine may work very satisfactorily; but when a swarm is higher than 15 or 16 feet above the ground, a swarming-pole would be more serviceable. But a better practice is to clip all queens' wings, or put entrance-guards on all the hives. It ought not to be necessary, except in case of after-swarms going out with virgins, to shin up trees after swarms; and even these after-swarms can be avoided, to a great extent, by good management.—ED.]

SELL COMB HONEY BY THE POUND.

I see in GLEANINGS for Aug. 1 some articles on section honey and weight. I think the trouble is in the producer catering to the wants of the retailer. I insist that it is right that all honey in comb be sold by the retail dealer by the pound or ounce, as well as by the producer and wholesaler.

In buying honey of a grocer, if you have the pick you will try to select the finest one in the crate, leaving the others, and so on until there are three or four culls which he sells to somebody at a discount by the weight system. He has nothing to discount on, and so it is more fair to himself and the buyer. But most of the retailers are a little near, and insist on a 24-section case weighing only about 20 lbs. net. Now, that is not right. It is not fair. I insist that the producer and wholesaler have honey retailed by the pound and ounce. I insist that that plan will hurt no one, but be an advantage to the retailer. We shall always want honey in as nice form as can be, and comb honey in the section is about the best yet. Do you not think so? I have made another start in bees, and I send you a picture of that start. I shall keep you posted in regard to its growth along scientific lines.

E. A. NEWELL.

Massillon, O., Aug. 7, 1905.

[Mr. Newell has presented in a nut-shell the best arguments I have seen yet against selling honey by the piece. If the grocer really desires to deceive his customers by representing that his sections are full weight, then we should discourage the practice by every means possible; but I can not believe that this is the intent of the average retailer. Of course, if a whole case of sections were presented, and the customer were allowed to take his pick at so much a piece, the last few sections would be the poorest, and yet scarcely below the general average. But such a practice as this could be checked by keeping the case under the counter, and setting only a few sections on top of the showcase. But if the sections have been

carefully sorted, there ought to be no real choice. One might be fuller, and another not quite so full, but present a little whiter and cleaner comb.

To retail honey by the pound and ounce necessitates uneven change, delay, and bother. The whole grocery business has gravitated largely to packages all ready to hand out, containing just so much food stuff. Even sugar is beginning to be put up in regular-weight bags. It has now come to be the fact that one can go into a grocery and get pretty nearly a whole lay-out, without using the scales once. Shall we bee-keepers try to compel the grocers to go back to the old way of getting exact ounces and then figuring up each time the actual price of the section? You can lead a horse to water, but you can't make him drink. Many grocers will not handle honey, and why? Because we bee-keepers have not catered enough to the custom that now prevails, of regular size and regular packages at even change. If he must weigh out every section, and figure up the price at uneven change, he will handle something else.

We will grant, for the sake of argument, that one customer will get a box that by weight will be one cent less, and another customer a box that will be one cent more than the standard price—say 15 cents. If either customer buys half a dozen boxes in a year, by the law of averages he will not be much out of pocket after he has bought his six sections. If he buys a dozen at different times, the difference will be almost infinitesimal. Do not forget that the law of averages corrects many of these things just as it does the value of eggs. One dozen eggs might weigh several ounces more than another dozen; but no one would think of buying eggs by the pound.—ED.]

WATERING CELLAR-WINTERED BEES.

Some time ago I noticed an article in a Danish bee journal on the subject of preventing poor wintering. I might translate all of it, but will now refer only to what is said about the necessity of water when bees commence brood-rearing in the spring. The writer, in speaking of the importance of having strong colonies in the spring, says that the bees must start brood-rearing very early. In the cellar they can not do this to the extent they ought to, because they lack water. Outdoors, if water is not close by or furnished, they will, even when it is too cold or stormy for them to fly, go out in search of it, never to return. More bees are lost this way than we imagine. This is a reason for having only weak colonies when harvest is at hand. No method is given for watering bees outdoors or in the cellar. If it is of such paramount importance to give water in the cellar from the latter part of February, as this article seems to indicate, I should like to know. Mr. Editor, you may have informed us fully on this matter, but my memory can not place it.

Wausau, Wis.

G. A. LUNDE.

[Outdoor wintered bees will usually get all the water they require, by the condensation that will take place near the entrance, and sometimes on the sides of the hive. This condensation is the result of the warm breath of the bees, which, on striking the cold air near the entrance, or the cold sides of the hive, condenses. The same thing occurs to a lesser extent in the cellar. But it is generally considered advisable to keep down brood-rearing for indoor wintering, if not stop it altogether. In this country, at least, the giving of bees water in the cellar is not practical. If any one has any thing definite to offer, based on actual experience, I should be glad to have him tell us about it.—ED.]

BLEACHING COMB HONEY.

As my honey was rather dark I undertook to bleach it by sulphur fumes followed by exposure to the sun. The result was that in such frames as were exposed under glass, and no ventilation, the comb melted down and the honey ran off. Eight frames of honey were lost. Where was my mistake?

Elyria, O.

R. B. CARY.

[You explain the cause of failure yourself; namely, the lack of ventilation. The honey was doubtless exposed too close to the glass; and if it were shut up in a box or any little compartment where there would be no ventilation, the results would be exactly what you secured. In other words, you possibly made what we would call a solar wax-extractor. If you try the experiment again in a window in a house or store, placing the honey, say, a few inches from the glass, and leave it there for several days, we think you will note on improvement in the color.—ED.]

A LIGHT BREAKFAST OR NO BREAKFAST AT ALL.

Friend Root:—I want to shake hands with you on the light (or no) breakfast plan, and say that I am surprised that any one as old as you and I are (I am 55) have not found this out before; and I can also congratulate myself that I am not the only old crank. I used to eat the beefsteak (or heavy) breakfast too, and, like you, would get weak before dinner. About two years ago I commenced reading *Physical Culture*, and saw that we were eating too much, so I adopted the two-meal-per-day plan, eating no breakfast at all, and this proved to be one of your "happy surprises."

At that time I was working from 4 A. M. to 1 P. M.; so you see I did my whole day's work without eating, yet I suffered no inconvenience from it, and felt so much better in every way that I have kept it up. I have more endurance, and can do my work with much more ease, never get tired, and rarely feel hungry; yet I enjoy eating more than I have ever done since I was a boy. It is not only better for us, but it is more economical, and makes less work for the good wife.

Latonia, Ky.

R. O. DENPREE.



¶ By this shall all men know that ye are my disciples, if ye have love one to another.—JOHN 13: 35.

This little church near our home in the woods is a continued surprise and joy to me. I look on in wonder and surprise to see it grow and prosper. I presume it is more of a joy to me because I have for five summers worked, watched, and prayed for it. Like the peach-trees in the clearing around our home I have seen it bud, blossom, and, just recently, bear fruit. May God be praised for the fruit. What particularly impresses me just now is the loving *harmony* among its members. They are a unit. If there is any self or selfishness among its members I have yet to see it. Each one seems to vie with his neighbor in not only showing a loving sympathy and interest in the affairs of his neighbor, but he is ever ready to lend a helping hand. It makes me think of the day of Pentecost; and I have just been reading with a new interest the last ten verses of the second chapter of Acts. In response to Bro. Shelly's earnest preaching they said, as the people said to Peter, "What shall we do?" When he told them, "they that gladly received his word were baptized." Then we are told, "They continued steadfastly in the apostles' doctrine and fellowship, and in the breaking of bread, and in prayers." And, again, "And all that believed were together and had all things common." Once more, "Praising God, and having favor with all the people." The above description is wonderfully like the Bingham church just now.

I have several times mentioned a young man who has worked for me more or less for the past four summers. I have often plead with Earl to "seek first the kingdom of God and his righteousness," but he didn't "see things" as I did. When he came to Sunday-school I tried to have him go up in the choir and help the singing, as he has quite a talent that way; but for some time past he continually refused, and all the other young men seemed to have dropped out of the choir. Well, since his conversion he never misses a meeting of any kind. He is first to march to the front in the singing, and in getting the other boys to go with him. His bashfulness and timidity are all gone. I look at him and wonder if it can be really the same Earl. No! it is not the same, for he has really and truly been "born again."

Last evening the meeting, for some reason, did not seem to start out as full of life and interest as usual. I, while on my knees, was conscious of half-heartedness and depression, and was praying against it. When we all rose to our seats Earl left his seat among the singers, came forward near the pulpit, and spoke something as follows:

"Dear friends, I am glad to tell you I am not only happy *to-night*, but my religion makes me happy *all day long*. I am afraid this is not the case with some of the rest of you, or this meeting would not drag as it does. It seems as if a lot of you were 'down-hearted' about something. Tell us about it, and let us wake up. We are not living up to our privileges as followers of the Lord Jesus Christ."

I almost had to rub my eyes to be sure I wasn't dreaming. Could this indeed be Earl who was rebuking *me* and other old veterans for being lukewarm and faint-hearted? Some one then started the hymn, "Higher Ground," and we had a meeting full of life and faith after that.

Some of our readers may think I am making a great fuss over a commonplace revival in a little backwoods country church. We get mail here every day, and I take and read two daily papers, so I know pretty well what is going on outside. Let me give you a sketch from one of these dailies:

Mr. W. R. Andrews of Grand Rapids, Mich., at a recent toast, got off the following appeal to the Filipinos:

You Filipinos don't know what you are missing by not wanting to become citizens of this grand country of ours. There isn't any thing like it under the sun. You ought to send a delegation over to see us—the land of the free—land of fine churches and 46,000 licensed saloons; Bibles, forts, and guns, houses of prostitution; millionaires and paupers; theologians and thieves; liberals and liars; politicians and poverty; Christians and chain gangs; schools and scalawags; trusts and tramps; money and misery; homes and hunger; virtue and vice; a land where you can get a good Bible for fifteen cents and a bad drink of whisky for five cents; where we have a man in Congress with three wives, and a lot in the penitentiary for having two wives; where we put a man in jail for not having the means of support, and on the rock-pile for asking for a job of work; where we license bawdy houses, and fine men for preaching Christ on the street corners; where we have a Congress of 400 men who make laws, and a Supreme Court of nine men who set them aside; where good whisky makes bad men and bad men make good whisky; where newspapers are paid for suppressing the truth, and made rich for teaching a lie; where professors draw their convictions from the same place they do their salaries; where preachers are paid \$25,000 a year to dodge the devil and tickle the ears of the wealthy; where business consists of getting hold of property in any way, that won't land you in the penitentiary; where trusts "hold up" and poverty "holds down;" where men vote for what they do not want for fear they will not get what they do want by voting for it; where "niggers" can vote and women can't; where a girl who does wrong is made an outcast, and her male partner flourishes as a gentleman; where the political wirepuller has displaced the patriotic statesman; where we have prayers on the floor of our national capitol, and whisky in the cellar; where we spend \$500 to bury a statesman who is rich, and \$10 to put away a working-man who is poor; where to be virtuous is to be lonesome, to be honest is to be a crank; where we sit on the safety-valve of energy, and pull wide open the throttle of conscience; where we pay \$15,000 for a dog, and fifteen cents a dozen to a poor woman for making shirts; where we teach the "untutored" Indian eternal life from the Bible, and kill him off with bad whisky; where we put a man in jail for stealing a loaf of bread, and in Congress for stealing a railroad; where the checkbook talks, sin walks in broad daylight, justice is asleep, crime runs amuck, corporations permeate our whole social and political fabric, and the devil laughs from every street corner.

The above may be somewhat of an exaggeration, but I think we all must agree there is at least a large amount of truth in it. What is the remedy? Dear friends, the remedy, and the only remedy, is getting the love of Jesus Christ into the hearts of the

common every-day people of our nation; and this can be done by only just such revivals as I have been describing. Every one who is really born into the kingdom goes at once to work to win his neighbors.

I don't know so much about the "Congress of 400 men," but I do know of a House and Senate in our own State of Ohio whose united voices were swept aside by the veto of Gov. Herrick just because of the "Boss" and breweries that stood behind him.

There may be dogs valued at \$15,000, and it isn't particularly my affair; but if there are women in our nation who are "making shirts" at "15 cts. a dozen" it ought to be the affair of every one of us. Can any one tell us if this is true?

Right near where I write there are schools and churches for the Indians of Northern Michigan, and may God be praised for it; but there is something else also near where I am writing. At Sutton's Bay, eight miles from here, the Leelanau fair was recently held. Mrs. Root was more interested in the Indian men, women, and children, than, perhaps, in any thing else at the fair; but in the afternoon there were drunken Indians reeling about on the grounds, and along the way between the fair and the town. Some could not walk at all, and I saw two intoxicated Indian women. Can some one tell me if there is not a law here in Michigan, as there is in California and Arizona, against selling intoxicants to Indians? A prominent business man in Sutton's Bay told me if he should undertake to enforce the law against the saloons, the rough element "runs things" to such an extent he would not be permitted to stay in the town. A bee-keeper who resides near there said to me, "Mr. Root, the saloons could not pay expenses if it were not for their trade with the Indians." There is an Indian village but a few miles away, and Mrs. Root said she thought almost a fourth of the people attending the fair were Indians. This State and our whole nation are laboring to educate and civilize these dusky friends, and I am sure their village with its Indian schools, churches, stores, etc., shows very commendable progress; but just think of permitting a few saloon-keepers (just for the sake of the little money they make) to tear down, and send to ruin, all our efforts to educate and build up this people! There is a Congregational church in Sutton's Bay, and a small band of Christian women are doing what they can to stem the tide. How long, O Lord, shall this thing continue?

On page 1035 of our last issue I gave the testimony of a middle-aged man who came forward one rainy evening. Within less than a week he was asked to lead the meeting; and he told us then that, as soon as he stood up in the anxious-seat, his mind kept running toward three friends of his, and he kept thinking they *too* must be persuaded to come, and they *did* come — all three. One of the three was Earl. Is it *possible* that any of these who are happy in the love of Christ could be guilty of any such work as men-

tioned in that newspaper clipping? *Surely not*; for "the blood of Christ cleanseth from all sin."

As an illustration of the way in which the love of Christ transforms and makes over the individual, I will, with your permission, mention an experience of my own. Mrs. Root was born in England, and came to this country when eight years of age. My ancestors were "Down-east Yankees." Both of us acquired from our parents certain peculiarities of dialect. As Mrs. Root was educated here she shows very little of the English in her speech; but after our marriage, when we both got real well acquainted, I suppose we were less careful about speaking strictly according to grammar and dictionary. At one period in my life (before my conversion), I am sorry to say I used to feel annoyed at her slight accent that only occasionally indicated she was not of American birth. I was well aware her speech was much more correct than my own, but at times I felt vexed that she could not learn to speak *exactly* like the "Yankees." I am sorry to be obliged to make this confession; but it well illustrates the attitude of the human heart when the love of Christ has not entered. Too many a *husband* has got into a way of thinking *himself* the center of the (home) universe, and that all should conform to his ways. Now note the contrast. After I learned that the Lord Jesus Christ is "Lord of creation," and not my poor self, I began to *love* these few quaint peculiarities that formerly vexed me. They are *now* to me an attraction, and I love the dear little woman all the more for them. Yes, I can honestly say I love all of her countrymen when their speech betrays their nationality; and I enjoy telling them *Mrs. Root* came from Queen Victoria's land. Our own America is now made up of a mixture of many nations, and God intended it should be so. It should make us more gentle to those from other shores. Not only should our "mother tongue" tell where we came from, but we of the fatherhood of God should be known of all nations *because* we have "love one to another."

The man who casts ridicule on one because he speaks another tongue, or speaks our language imperfectly, not only betrays to all men he is not a *Christian*, but at the same time betrays that he is not even a gentleman. When I tried in vain to make myself understood among the Spanish-speaking people in Cuba, I resolved again and again to be more careful hereafter to give all the help I could to any I should meet who do not speak *our* language.

Of course, members of the different clubs and secret societies have "love one to another," of their own people; but the gospel of Christ Jesus includes *all* people and all nations. The only password is, "All who love the Lord."

In regard to the different denominations, a very devout and earnest gray-headed German friend said to me a few days ago, "Brother Root, it makes very little differ-

ence what church we belong to. When we come before the great judgment-seat we may be very sure we shall not be asked the name of the denomination to which we belong."



A. I. ROOT'S BATH-ROOM.

There is a good deal said about bath-rooms nowadays, and I am glad of it; but the most of them are expensive affairs, and within the reach of only well-to-do people. Another thing, it is usually quite a task for the good wife and mother to look after these expensive affairs and keep them neat and tidy. Of course, hired help may do it. Yes, they *may* do it, and, again, they *may not*—at least in such a way as Mrs. Root would want it done. Somehow I always dread clearing up after a bath. Here at the cabin, when it is cool I take my bath in a large tub, close by the kitchen stove; but in spite of many admonitions I almost always slop water over the floor, and I don't have water enough even then. When I take a sun bath and water bath, both together, out in the woods, as I have told you about, there is no clearing up; but it is a good way from the house, and, besides, some hunter or other individual going crosslots *might* come along and make it a little embarrassing.

Well, I have been so strongly impressed with the advantages of the combined sun-and-water bath, I recently devised the following scheme: If you turn to the picture of the cabin, page 658, June 15, you will notice the ground slopes to the south, just below the little low wood-shed. This ground is now covered with a heavy growth of soft June grass, making it a nice place to sit down on when you are tired. The rubber hose that brings the spring water up near the back doorstep is usually coiled up just at the foot of this grassy slope. To make a bath-room here, all I did was to get a strip of cloth, eight or ten yards long, and a full yard wide. Stout rings were sewed at each corner, and the apparatus was ready. Four stout nails were driven into the wood-shed to catch the rings, and two stakes a yard high and about two yards apart at the lower end. This makes an enclosure of cloth about 2×3 yards, giving plenty of room to sit down on the soft clean grass while you take your bath in the full blaze of the noonday sun, or, better still, at about two or three o'clock in the afternoon. Some nails in the wood-shed wall on the north side hold the clothing. If you take this sun-and-water bath two or three times a week, or every day, you will not need clean underwear every time, but your sweaty things can be hung in the sun, and get thoroughly aired and dried while you bathe. I am not sure you

will need soap every time; and when you do use it, be sure you wash every bit of it off, for I for one find it an irritant to the skin if not removed thoroughly with plenty of water. No towel is needed, for you are to rub yourself dry in the sun; and when you are done, unhook the rings, roll up your long sheet, and that is all of it.* The grassy floor takes care of itself, for it just thrives on plenty of soap and water. A hose and running stream of water are, of course, desirable, but not absolutely necessary. As our iron pipes run a good deal on top of the ground in the sun, the water is plenty warm on almost any sunny day; and during this last week in September I have been having the nicest kind of baths. You want to commence "taking lessons" on some very warm day. Sit right in the sun, and commence with your feet. Get them sweet and clean with soap, then give them a big rubbing under a stream of water from the hose. If the water feels chilly, rub your limbs and body first with a wet hand. After a good rubbing with just the wet hands, run a small stream from the hose on the ankles, then knees, and so on up, over the whole body. Don't get childish, and say you "can't stand it." Let the body recover a little, then try again, and pretty soon you will agree with me that running water applied all over the body is just about the nicest thing in the world. Your whole body, in just a little time, will become immune to cold water, just like your hands, face, and feet, and it is the best preventive of "catching cold" of any thing ever invented.

How about cold weather, and, finally, winter time? Well, I haven't got to that part of it; but some glass sashes overhead, and perhaps in place of the cloth sheet, will take us along until well into winter, and a little greenhouse warmed with a cheap furnace or hot-water pipes might be quite a little cheaper than the "doctor bills" we often pay, to say nothing of trained nurses at "\$4.00 a day, and board and lodging."

After such a bath, with rather cool water, you can stand a draft or a northwest wind in a way that is truly wonderful. God intended that we should have plenty of sun, air, and water, and we can not safely skip any one of them. The sun especially has been ignored and neglected, and it ought to strike right on the bare flesh of every part of our bodies once every few days; and the more of it, and the oftener, the better.

In regard to air, let a single ray of sunlight come into the average sleeping-room in the morning, and then look at the dust and trash that are floating all through it. Do you ever see the air around your bedside, when you sleep out under the trees in a hammock, like this? Surely not; and this is why consumptives are now sleeping outdoors almost all over the world. Now, unless you can make the air in your bedroom

* This sheet can, of course, be more than a yard wide; but if wider it cuts off more sun. While you are seated on the grass I find a yard in height gives privacy and cuts off the cool breeze.

as free from dust as the air out of doors you are not doing every thing you can for health. By "practicing" just what I am "preaching" I can swing an ax hour after hour, and just enjoy the fun; but I have nothing over my arms and shoulders but a thin undershirt. If I get sweaty I slip on a coat when I stop and come in to read or write.

Now, friends, see to it that I do not have all the fun there is in this "sunny" bathroom. I have described and demonstrated to the good wife that you can have a good bath and not leave a thing for her to be obliged to "pick up after you"—no, not even a *towel* to be washed.

DUFFY'S MALT WHISKY, ONCE MORE.

We take pleasure in calling attention to the following, which we clip from the latest issue of the *New Voice*:

BLOW TO DUFFY FRAUD.

The New York Supreme Court has finally decided that "Duffy's Pure Malt Whisky" is a whisky, and that its makers have no more right to evade the excise laws by selling it as a "medicine" than have the manufacturers of any other brand of liquor.

In other words, Duffy's whisky can no more be sold without the payment of the saloon taxes than can any other whisky.

An epidemic of prosecutions against business men who continue to sell this rotten speak-easy whisky would bring this arrogant nest of Rochester distillers to a realization that there is still a God in Israel.

Wants and Exchange.

Notices will be inserted under this head at 15 cts. per line. Advertisements intended for this department should not exceed five lines, and you must say you want your advertisement in this department or we will not be responsible for errors. You can have the notice as many lines as you like, but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale, will be charged our regular rates of 20 cts. per line, and they will be put in other departments. We can not be responsible for dissatisfaction arising from these "swaps."

WANTED.—To exchange bee-supplies (Root's) for beeswax. A. H. REEVES, Perch River, N. Y.

WANTED.—To exchange modern firearms for incubators and a Barnes cross-cut saw. W. S. AMMON, 216-218 Court St., Reading, Pa.

WANTED.—To buy colonies of bees. State price and condition. F. H. FARMER, 182 Friend St., Boston, Mass.

WANTED. Gasoline engine and a Barnes circular saw-table. J. G. PRESSLER, 141 Armitage Ave., Chicago, Ill.

WANTED.—A good second-hand 12-inch foundation-mill in good order. P. W. STAHLMAN, West Berne, N. Y.

WANTED.—Refuse from the wax-extractor, or slum-gum. State quantity and price. OREL L. HERSHISER, 301 Huntington Ave., Buffalo, N. Y.

WANTED.—Refuse wax in exchange for cash, or stock in standard-bred White Wyandottes. H. E. CROWTHER, No. Kingsville, Ohio.

WANTED.—To exchange Aikin honey-bags, a 200-egg Reliable incubator, and brooder, for honey. CHAS. KOEPPEN, Fredericksburg, Va.

WANTED.—Beeswax. We are paying 26 cts. cash or 30 cts. per pound in exchange for supplies for pure average wax delivered at Medina, or our ranch houses at 144 East Erie St., Chicago, 44 Vesey St., New York city, and 10 Vine St., Philadelphia. Be sure to send bill of lading when you make the shipment, and advise us how much you send, net and gross weights. We can not use old comb at any price.

THE A. I. ROOT COMPANY, Medina, Ohio.

Help Wanted.

WANTED.—A bee-keeper. Will furnish room or cottage in city. State experience, and wages expected. J. J. WILDER, Cordele, Ga.

WANTED.—Experienced apiarist to take full charge of my apiary of 200 colonies. Write for particulars. ARNT ARNESEN, R. F. D. No. 5, Rice Lake, Wis.

Addresses Wanted.

WANTED.—Parties interested in Cuba to learn the truth about it by subscribing for the Havana Post, the only English paper on the Island. Published at Havana. \$1.00 per month; \$10.00 per year. Daily except Monday.

For Sale.

FOR SALE.—Fifty colonies of bees for \$75.00. Address F. B. BLACK, Pleasant Mound, Bond Co., Ills.

FOR SALE.—Full colonies of leather-colored Italian bees at \$4.00 per colony. F. A. GRAY, Redwood Falls, Minn.

FOR SALE.—White Wyandotte cockerels and pullets, selected stock, farm raised, at \$1.00 each. JOHN BUFTRICK, Rome City, Ind.

FOR SALE.—Eighty colonies of pure Italians. Or will exchange for poultry. Address J. FERRIS PATTON, Newtown, O.

FOR SALE.—We have received three cars California honey recently all in new 60-lb. cans and casee. The empties will be sold at the low price of 35 cts. per case. J. A. BUCHANAN & SONS, Hollidays Cove, W. Va.

FOR SALE.—Several hundred acres of magnificent land at \$5.00 and \$10.00 an acre, in one of the finest wood and grass districts of Cuba. R. M. MCMURDO, Cauto, Cuba.

FOR SALE.—My apiaries of 300 colonies near Macon, Ga., the third healthiest city in the U. S., a ready market for output at a fancy price. Prefer selling a half-interest to a good practical bee-man to take charge. If you mean business, address for particulars. JUDSON HEARD, Atlanta, Ga.

FOR SALE.—We offer, for the first time, queens which produce beautiful bees. You never will be sorry if you try one of our beauties. Unested, 75c; tested, \$1.00. Choice strain of leather-colored queens at same price. F. H. FARMER, 182 Friend St., Boston, Mass.

FOR SALE.—Cheap, 42 colonies of Italian bees in eight-frame hives; also 40 full-depth and 25 shallow extracting supers; wired frames built on full sheets of foundation. Great bargain. Speak quick. C. M. LEE, R. F. D. 2, Spring Grove, Minn.

FOR SALE.—Fifty swarms of bees, 200 extra double-walled hives with full set of fixtures and many extra supplies, one extractor, one steam wax-extractor, two acres of ground with good five-room house, good workshop, small barn, chicken-house, good water; located two miles northeast of Thompsonville, on one of the finest trout streams in Northern Michigan; a fine location for bees. \$350.00 in cash will buy all this. If interested, write THE A. I. Root Co., Medina, Ohio.